

Appendix I Structures Assessment

1.1 Highway Structures

A review of the existing structures on the A96 between Inverness and Aberdeen has been undertaken. To facilitate this, the route has been divided into ten sections. These sections are:

| Section | Description |
|---------|---|
| B1 | Raigmore Interchange to Gollanfield |
| B2 | Gollanfield to Hardmuir Wood |
| B3 | Hardmuir Wood to Alves |
| B4 | Alves to Lhanbryde |
| B5 | Lhanbryde to west of Keith |
| B6 | West of Keith to west of Huntly |
| B7 | West of Huntly to east of Huntly |
| B8 | East of Huntly to Old Rayne |
| B9 | Old Rayne to Kintore |
| B10 | Kintore and proposed junction with AWPR |

Within each section, the structures are described and the approximate location of each is noted. A summary of their condition, extracted from the latest Principal Inspection (PI) and General Inspection (GI) reports, where available, is also provided. In relation to the condition of a structure, General and Principal Inspections identify defects found and categorise these into four categories, 1 to 4, depending on the maintenance priority ranking of the defect, category 1 being insignificant and category 4 being severe and requiring immediate attention. Only category 3 and 4 defects are identified individually in the information provided below for each structure.

Structures such as culverts and retaining walls are considered as minor structures for the purposes of this report and are listed within each section with a short summary only of any category 3 or 4 defects described for each structure as necessary.

Where the section of road considered is an existing single carriageway, consideration has been given to the structure and its immediate location with the objective of identifying any factors that may be significant in terms of a parallel widening solution at that location. The available records have also been reviewed to consider whether the structure provision is in accordance with current standards.

Where the section is an existing dual carriageway, the available records have been reviewed to consider whether the structure provision is in accordance with current standards for dual carriageway trunk roads.

Where parapets provided on a structure are identified as non-standard, should any modifications be undertaken to the highway cross-section, the parapets would require to be assessed against the requirements of TD19/06 'Requirement for Road

Restraint Systems and the Road Restraint Risk Assessment Process (RRRAP), with the potential that they would not satisfy the current requirements.

The structures detailed within this appendix does not include those located within the main urban centres of Nairn, Forres, Elgin and Keith.

A summary of the conclusions drawn for each structure is presented below proceeding along the A96 from west to east.

(a) Section B1: Raigmore Interchange to Gollanfield

In this section there are 4 No. bridges and 7 No. culverts. Whilst the road along this section is principally single carriageway, a short length of dual carriageway, approximately 750m long, extends eastwards from the A96 Raigmore Interchange to Seafield Roundabout on the A96.

(i) Stoneyfield 2 Rail (A96 590)

Description

Located immediately east of the A9 Raigmore Interchange, Stoneyfield 2 Rail carries the eastbound carriageway of the A96 over the Aberdeen to Inverness Railway Line. It was constructed circa 1997 and comprises a 3 span integral weathering steel concrete composite deck. The end supports comprise integral bankpads on piled foundations and the intermediate supports comprise free standing slab wall piers on piled foundations. The structure has a skew of approximately 38 degrees with skew spans of 10.9m, 21.9m and 10.9m. The carriageway varies in width from approximately 10m at the west abutment adjacent to the interchange to approximately 7.3m at the east abutment. A 2.5m wide raised verge is provided on the north side and a 0.6m wide raised verge is provided on the south side. Hard strips 1m wide are provided adjacent to each raised verge. The minimum available headroom to the track below is 5.1m. Steel parapets 1.5m high of P6 containment, steel sheet clad with steeples copes, are provided on each edge of the deck.

Condition

The most recent General and Principal Inspections (2010 and 2008 respectively) identified that the structure was generally in good condition with only minor defects. No category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure meets current standards required for a dual carriageway.

The parapet containment over the structure meets current requirements for containment over railways, i.e. very high containment (H4a).

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. There is no record of an assessment to provide recent verification of its load carrying capacity.

(ii) Stoneyfield 1 Rail (A96 580)Description

Located immediately east of the A9 Raigmore Interchange, Stoneyfield 1 Rail carries the westbound carriageway of the A96 over the Aberdeen to Inverness Railway Line. It was constructed circa 1967 and comprises a single span simply supported filler joist slab deck. The end supports comprise full height mass concrete gravity abutments on spread foundations. The structure has a skew of approximately 36 degrees with a clear skew span of 13m. The carriageway is of constant width of 7.3m between kerbs. A 3.05m wide raised verge is provided on the north side and a 3.35m wide raised verge is provided on the south side. No hard strips are provided. The minimum available headroom to the track below is 4.84m. Non-standard masonry parapets approximately 1.2m high are provided on each edge of the deck.

Condition

The most recent General and Principal Inspections (2012 and 2008 respectively) identified that the structure was generally in good condition with only minor defects. No category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure does not meet current standards required for a dual carriageway due to lack of hard strips.

The parapet containment over the structure does not meet current requirements for containment over railways, i.e. very high containment (H4a).

The structure is recorded as being designed to accommodate full HA loading and 42.5 units of HB loading. Assessment records indicate an assessed load carrying capacity of full BD 21 assessment live loading and 45 units of HB loading.

(iii) Screttan Burn (A96 570)Description

Located approximately 500m east of Seafield Roundabout, Screttan Burn carries the single carriageway A96 over Screttan Burn. It was constructed circa 1967 and comprises a single span simply supported reinforced concrete slab deck. The end supports comprise full height reinforced concrete propped abutments on spread foundations. Screttan Burn passes below the A96 on a skew of approximately 33 degrees with a clear skew span of 3.1m. The carriageway is of constant width of 7.3m between kerbs. A 1.8m wide grass verge and 1.5m wide footway are provided over the structure on the north side and a 2.0m wide footway and 0.8m wide grass verge are provided on the south side. No hard strips are provided. The minimum available headroom through the structure is 1.8m. Vehicle containment comprises a corrugated steel safety barrier on the north side with a post and wire fence on the south side.

Condition

The most recent General and Principal Inspections (2010 and 2014 respectively) identified that the structure was in reasonable condition with generally only minor defects. Two category 3 defects were identified in

relation to the occurrence of scour undermining a downstream wingwall foundation and repairs to pedestrian fencing.

Review against current standards

The cross section of this structure does not meet the current standards required for a single carriageway. The carriageway width of 7.3m between kerbs does not meet the requirement of 9.3m, but the overall width to back of verges is more than adequate. Modification of the kerb line will be required to achieve a cross section in accordance with current standards for a single carriageway.

The vehicle containment over the structure does not comply with current standards as it is of insufficient length on approach and exit from the structure on the north side or of sufficient containment on the south side.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. Assessment records indicate an assessed load carrying capacity of full BD 21 assessment live loading and 45 units of HB loading.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(iv) Morayston (A96 560)

Description

Located approximately 1km east of the junction with the B9039, Morayston carries the single carriageway A96 over Rough Burn. The original structure, which was constructed in 1850 and subsequently widened to the north and south at a date unknown, comprises a single square span concrete block arch 2.5m long on the north side, a central 7.8m long masonry arch and a 4.9m long concrete block arch on the south side. The end supports comprise mass concrete gravity abutments on spread foundations. The structure passes over the Rough Burn with a clear square span of 4.5m. The carriageway is of constant width of 9.5m between kerbs. A 3.1m wide surfaced verge and 1.45m wide surfaced verge are provided over the structure on the north and south sides respectively. The minimum available headroom through the structure is 2.25m at the crown of the arch. Vehicle containment comprises non-standard masonry parapets approximately 1.1m high on each side of the deck.

Condition

The most recent General and Principal Inspections (2010 and 2012 respectively) identified that the structure was in very good condition with no defects of note. No category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure does not meet the current standards required for a single carriageway. The carriageway width of 9.5m between kerbs meets the requirement of 9.3m, but the overall width to back of verges is

insufficient. A minor widening of the structure to the south will be required to achieve a cross section in accordance with current standards for a single carriageway.

The parapet containment over the structure does not comply with current standards.

The design loading for the structure is unknown. Assessment records indicate an assessed load carrying capacity of full BD 21 assessment live loading and 45 units of HB loading.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken on the south side of the carriageway due to the presence of buildings to the immediate north west of the structure. This solution would provide consistency of function and form.

(v) Minor Structures

The 7 No. culverts located within Section 1 are as follows:

- A96 560 C84 Milton 2;
- A96 560 C80 Milton Burn;
- A96 560 C19 Newton Burn;
- A96 550 C81 Kerrowaird;
- A96 550 C77 Tornagrain;
- A96 550 C62 Mid Coull; and
- A96 550 C40 Drumine Burn.

It should be noted that the 2013 Principal Inspection of A96 560 C84 Milton 2 identified a need to clean the invert of the structure of silt and that a VRS and timber post and rail pedestrian fencing should be provided in each verge.

It should be noted that the A96 560 C80 Milton Burn has been undergoing monitoring of cracks in the soffit of the stone slabs forming the central portion of the deck of this structure. No deterioration or movement of the cracks has been identified since installation of the movement gauges in 2006. In addition, the 2013 Principal Inspection identified the need to provide timber post and rail fencing around the upstream headwall and the removal of a tree from the back of the downstream river training wall.

It should be noted that the 2010 Principal Inspection and 2014 General Inspection of A96 560 C62 Mid Coull identified a requirement to install pedestrian fencing around the headwalls in accordance with BA 48.

No other category 3 or 4 defects other than those noted above affect these minor structures.

(b) Section B2: Gollanfield to Hardmuir Wood

In this section there are 3 No. bridges and 2 No. culverts. The road is single carriageway throughout.

(i) Gollanfield Rail (A96 550)Description

Located approximately 2km east of the junction with the B9006, Gollanfield Rail carries the single carriageway A96 over the Aberdeen to Inverness Railway Line. It was constructed circa 1975 and comprises a single span simply supported precast pretensioned beam and concrete infill deck. The end supports comprise full height concrete cantilever abutments. It is not known whether the foundations comprise spread foundations or piles. The structure has a skew of 45 degrees with a clear skew span of 9.62m. The carriageway is of constant width of 7.3m between kerbs. A 2m wide raised verge is provided on the each side of the carriageway. No hard strips are provided. The minimum available headroom to the track below is 4.7m. In situ reinforced concrete parapets 1.5m high of P6 containment with steeple copes are provided over the structure parallel to the A96 carriageway. In addition, P5 containment metal post and rail pedestrian parapets are provided at each end of the deck over the railway.

Condition

The most recent General and Principal Inspections (2012 and 2008 respectively) state that the structure is generally in a good condition with only minor defects. No category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure does not meet the current standards required for a single carriageway. The width between kerbs of 7.3m does not meet the requirement of 9.3m and the overall width between parapets at 11.3m is not adequate. Lengthening of the structure will be required to achieve the current cross section standard for a single carriageway.

The parapet containment over the structure complies with current standards. However, the attachment of the approach safety fencing to the concrete parapet is sub-standard.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. Assessment records indicate an assessed load carrying capacity of full BD 21 assessment live loading and 45 units of HB loading.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(ii) Auchnacloch Burn (A96 528)Description

Located approximately 250m west of the junction with the B9111, the structure carries the single carriageway A96 over the Auldearn Burn. It was constructed circa 1960 and comprises a reinforced concrete box type structure. The structure passes below the A96 on a skew of approximately 54 degrees and the internal span length is approximately 3m. The road over the structure

comprises a carriageway approximately 8.46m wide with a grassed verge approximately 2.3m wide on the north side and a stone filled drainage trench approximately 2.1m wide and 1.5m wide surfaced footway on the south side. The minimum available headroom through the structure is 3.2m. Vehicle containment comprises a corrugated steel safety barrier in each verge whilst pedestrian protection comprises a timber post and rail fence on the north side and a metal pedestrian guardrail on the south side.

Condition

The most recent General Inspection (2011) and Principle Inspection (2013) both indicate that the structure is generally in a good condition. The safety fencing over the structure is noted as being too low and of insufficient length on the approaches to the structure and is recorded as a category 3 defect. Also, the pedestrian protection requires to be reinstated.

Review against current standards

The cross section of this structure does not meet the current standards required for a single carriageway. The carriageway width of approximately 8.46m does not meet the requirement of 9.3m. The structure would require to be widened to achieve the current cross section standard for a single carriageway. Lengthening of the structure will be required to achieve the current cross section standard for a single carriageway.

The vehicle containment over the structure does not comply with current standards as it is of insufficient length on approach and exit from the structure.

The structure is recorded as being designed to accommodate full HA loading and 37.5 units of HB loading. Assessment records indicate an assessed load carrying capacity of full BD 21 assessment live loading. No HB loading is available.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(iii) Auchnacloch Underpass (A96 526)

Description

Located approximately 100m east of the junction with the B9111, the structure carries the single carriageway A96 over a farm access track. It was constructed circa 1987 and comprises a corrugated steel buried structure. The structure passes below the A96 on a skew of approximately 8 degrees and the internal span length is approximately 3.9m. The road over the structure comprises a carriageway approximately 10.85m wide with a grassed verge approximately 4m wide on the north side and a grassed verge approximately 3.7m wide on the south side. The available headroom through the structure is 3.69m. Vehicle containment comprises an un-tensioned corrugated steel safety barrier on each side whilst pedestrian protection comprises a timber post and rail fence on each side.

Condition

The most recent General and Principal Inspections (2010 and 2012 respectively) indicate that the structure is generally in a good condition. The safety fencing over the structure is noted as being too low and is recorded as a category 3 defect. However, this defect does not affect the structural integrity of the structure.

Review against current standards

The cross section of this structure exceeds current standards required for a single carriageway due to carriageway widening to accommodate a right turn lane at the junction with the B9111 to the west. The structure would not require to be widened to achieve the current cross section standard for a single carriageway.

The vehicle containment over the structure does not comply with current standards as it is of insufficient length on approach and exit from the structure.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available to indicate an assessed load carrying capacity.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(iv) Minor Structures

The 2 No. culverts located within Section 2 are as follows:

- A96 520 C85 Boath Burn; and
- A96 520 C75 Broombank Burn.

It should be noted that the 2010 General Inspection of A96 520 C85 Boath Burn identified giant hogweed as being present adjacent to the structure although the 2014 Principle Inspection did not identify this defect.

It should be noted that the 2010 and 2012 General Inspections of A96 520 C75 Broombank Burn identified that pedestrian fencing was missing to the headwalls and that giant hogweed was present adjacent to the structure.

No other category 3 or 4 defects other than those noted above affect these minor structures.

(c) Section B3: Hardmuir Wood to Alves

In this section there are 3 No. bridges and 3 No. culverts. The road is single carriageway throughout.

(i) Brodie (A96 520)Description

Located approximately 150m east of the junction with the C class road access to Brodie Castle, 5.5km west of Forres, the structure carries the single carriageway A96 over Muckle Burn. It was constructed circa 1972 and is comprised of two simply supported spans of precast pretensioned concrete beams with solid infill supported on a reinforced concrete leaf pier and reinforced concrete cantilever abutments, both on mass concrete on natural ground. The structure passes over the Muckle Burn on a skew of approximately 30 degrees and the internal span lengths are approximately 14.95m between centres of supports. The road over the structure comprises a carriageway 7.3m wide with a 1.8m wide footway on each side. The minimum available headroom beneath the structure is 2.72m at the west abutment. Vehicle containment comprises non-standard 740mm high P2 vehicle pedestrian parapets of unknown design speed.

Condition

The most recent General and Principal Inspections (2013 and 2009 respectively) indicate that the structure is generally in a fair condition. However, a number of category 3 defects were identified in relation to water ingress and leaching efflorescence to the deck, piers and abutments due to leaking movement joints. Giant hogweed was also identified as present in the vicinity of the embankment / river training works.

Review against current standards

The cross section of this structure does not meet current standards required for a single carriageway. The carriageway width of 7.3m does not meet the requirement of 9.3m and the verge width of 1.8m does not meet the requirement of 2.5m. The structure would require to be widened to achieve the current cross section standard for a single carriageway.

The parapet containment over the structure does not comply with current standards due to insufficient height.

The structure is recorded as being designed to accommodate full HA loading and 30 units of HB loading. Assessment records indicate an assessed load carrying capacity of full BD 21 assessment live loading and 30 units of HB loading.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. However, a number of properties lie immediately to the west of the structure and these may need to be demolished to accommodate widening.

(ii) Dalvie (A96 510)Description

Located approximately 3.2km west of the junction with the B9011, the structure carries the single carriageway A96 over Speedie Burn. It was constructed circa 1938 and comprises a simply supported single span reinforced concrete solid slab supported on reinforced concrete gravity

abutments on mass concrete. The structure passes over the Speedie Burn on a skew of approximately 13 degrees and the clear span length is approximately 3.7m between abutments. The road over the structure comprises a carriageway 7.25m wide with surfaced verge widths of 2.85m on the south and 3.9m on the north. The minimum available headroom beneath the structure is 1.5m. Vehicle containment comprises a steel corrugated safety barrier located in each verge in front of the original 900mm high solid masonry parapets.

Condition

The most recent General and Principal Inspections (2013 and 2009 respectively) indicate that the structure is in a good condition with only minor defects. No category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure does not meet current standards required for a single carriageway. The carriageway width of 7.25m does not meet the requirement of 9.3m whilst the verge widths of 2.85m on the south and 3.9m on the north meet the requirement of 2.5m. However, the presence of safety barriers installed in the verges reduces the available verge widths by 1m on each side. The structure would not be required to be widened to achieve the current cross section standard for a single carriageway provided the existing safety barriers were removed and the existing parapets upgraded.

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. Assessment records indicate an assessed load carrying capacity of full BD 21 assessment live loading and 30 units of HB loading.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(iii) Findhorn (A96 500)

Description

Located approximately 1.6km west of the junction with the B9011, the structure carries the single carriageway A96 over the River Findhorn. It was constructed circa 1938 and comprises a two hinged steel trussed open spandrel arch with reinforced concrete deck slab supported on full height counterfort abutments on mass concrete. The structure passes over the River Findhorn on a skew of approximately 38 degrees and the skew span length is approximately 90m between abutments. The road over the structure comprises a carriageway 8.9m wide with surfaced verge widths of 1.55m on both sides. Vehicle containment comprises non-standard 850mm high P2 vehicle pedestrian parapets of unknown design speed.

Condition

The most recent General and Principal Inspections (2013 and 2009 respectively) indicate that the structure is in a reasonably good condition. However, the expansion joints have been identified as allowing water leakage to the bearing shelves causing corrosion of the metal bearings and water ponding due to lack of discharge channel/pipe.

Review against current standards

The cross section of this structure does not meet current standards required for a single carriageway. The carriageway width of 8.9m does not meet the requirement of 9.3m whilst the verge widths of 1.55m do not meet the requirement of 2.5m. The structure would require to be widened to achieve the current cross section standard for a single carriageway.

The parapet containment over the structure does not comply with current standards due to insufficient height.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. Assessment records indicate an assessed load carrying capacity of full BD 21 assessment live loading and 30 units of HB loading.

Parallel Widening

This structure could not readily be extended. Any widening would require the deck slab to be extended symmetrically on each side which may prove problematic to the existing arch ribs in relation to load carrying capacity.

(iv) Minor Structures

The 3 No. culverts located within Section 3 are as follows:

- A96 520 C15 Feddan;
- A96 480 C68 Grange Hall; and
- A96 480 C35 Burgie.

It should be noted that there are no General or Principal Inspection reports available for A96 520 C15 Feddan and hence its condition is unknown.

It should be noted that there are no General or Principal Inspection reports available for A96 480 C68 Grange Hall and hence its condition is unknown.

It should be noted that the 2014 General Inspection and 2010 Principal Inspection of A96 480 C35 Burgie identified that no pedestrian protection was present at the headwalls. In addition, safety barriers have not been installed on the approaches and exits to the structure.

No other category 3 or 4 defects other than those noted above affect these minor structures.

It should also be noted that a steel bow string arch footbridge, Forres Footbridge A96 490 F in the TS WebIRIS database, crosses the A96 approximately 100m west of the junction with the B9011. A 'Notes of Site Visit' record made on 7 March 2006 is available in the database. It is believed that this structure is not the responsibility of Transport Scotland.

(d) Section B4: Alves to Lhanbryde

In this section there are 2 No. bridges, 1 No. culverts, and 2 No. retaining walls. The road is single carriageway throughout.

(i) Alves New Rail (A96 480)Description

Located approximately 1km west of the village of Alves, the structure carries the single carriageway A96 over the single track Aberdeen to Inverness Railway Line and a north facing disused turnout to Burghead. It was constructed circa 1979 and comprises a single span simply supported deck of precast prestressed concrete beams with reinforced concrete slab supported on full height mass concrete gravity abutments. The structure crosses the railway on a skew of approximately 56 degrees and the clear square span is approximately 9.95m between abutments. The road over the structure comprises a 7.3m wide carriageway and 2 no. 2.5m wide surfaced verges. The minimum available headroom to the track below is 5.094m. Vehicle containment comprises a 1.35m high P5 vehicle pedestrian parapet on the south side and a 1.23m high P5 vehicle pedestrian parapet on the north side.

Condition

The most recent General Inspection (2013) indicates that the structure is in a good condition. However, pedestrian safety fencing is required between the old and new Alves railway bridges.

Review against current standards

The cross section of this structure does not meet current standards required for a single carriageway. The carriageway width of 7.3m does not meet the requirement of 9.3m. The structure would require to be widened to achieve the current cross section standard for a single carriageway.

The parapet containment over the structure does not comply with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. There is no record of an assessment to provide recent verification of its load carrying capacity.

Parallel Widening

This structure could readily be extended adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form. It should be noted however that the A96 481 Alves Old Rail structure is situated immediately to the east of the A96 480 Alves New Rail structure.

(ii) Lhanbryde Farm Underpass (A96 430)Description

Located approximately 1.1km east of the junction with the B9103, the structure carries the single carriageway A96 over a farm access track. It was constructed circa 1995 and comprises a circular corrugated steel buried type

structure. The structure passes below the A96 on a square alignment and the internal span length is approximately 5.25m. The road over the structure comprises a carriageway approximately 9.7m wide including hard strips with grassed verges approximately 4m wide and 5m wide on the north and south sides respectively. The minimum available headroom through the structure is 4.32m. Vehicle containment comprises a corrugated steel safety barrier on each side whilst pedestrian protection comprises a timber post and rail fences.

Condition

The most recent General and Principal Inspections (2014 and 2010 respectively) indicate that the structure is in generally good condition with only minor defects. No category 3 or 4 defects were identified.

Review against current standards

The cross section of the road over this structure complies with current standards required for a single carriageway.

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. There is no record of an assessment to provide recent verification of its load carrying capacity.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(iii) Minor Structures

The 1 No. culvert and 2 No. retaining walls located within Section 4 are as follows:

- A96 410 W96 Station Road Retaining Wall;
- A96 410 W95 Station House Retaining Wall; and
- A96 410 C93 Lhanbryde Burn New.

It should be noted that the 2014 General Inspection of A96 410 C93 Lhanbryde Burn New identified that repairs were required to the pedestrian protection at the headwalls.

No other category 3 or 4 defects other than those noted above affect these minor structures.

(e) Section B5: Lhanbryde to west of Keith

In this section there are 8 No. bridges, 6 No. culverts and 1 No. retaining wall. The road is single carriageway throughout.

(i) Rothes Road Underpass (A96 415)Description

Located approximately 900m east of Cowfords Roundabout, the structure carries the single carriageway A96 over a farm access track. It was constructed circa 2011 and comprises a reinforced concrete box type structure. The structure passes below the A96 on a skew of 16 degrees. The internal span is approximately 4m. The road over the structure comprises a carriageway approximately 13.5m wide including hard strips with grassed verges 2.5m wide minimum. The minimum available headroom through the structure is 2.4m. Vehicle containment comprises a corrugated steel safety barrier on each side whilst pedestrian protection comprises timber post and rail fences.

Condition

This structure was built in 2011 and therefore no inspection records are available.

Review against current standards

The cross section of the A96 over this structure complies with current standards required for a wide single (S2+1) carriageway.

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. This structure has not been assessed.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(ii) Inchberry Road Underpass (A96 412)Description

Located approximately 200m east of Coull Brae Roundabout, the structure carries the single carriageway A96 over a combined pedestrian / cycleway. It was constructed circa 2011 and comprises a reinforced concrete box type structure on bored cast in place reinforced concrete piles. The structure passes below the A96 on a skew of 69 degrees. The internal span is approximately 5m. The road over the structure comprises a carriageway approximately 7.3m wide with no hard strips with verges 2.5m wide overall including 2m wide footways. The minimum available headroom through the structure is 2.7m. Vehicle containment comprises 1m high N2 metal parapets.

Condition

This structure was built in 2011 and therefore no inspection records are available.

Review against current standards

The cross section of the A96 over this structure complies with current standards required for a single urban (SU2) carriageway.

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. This structure has not been assessed.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form. However, it has been noted elsewhere that the constrained nature of the site would result in difficulties realigning the cycleways within the requirements of the Disability Discrimination Act and would require careful consideration.

(iii) Fochabers New (A96 410)

Description

Located approximately 125m west of Spey Bay Roundabout The structure carries the A96 over the River Spey.

The structure carries the single carriageway A96 over the River Spey. It was constructed circa 1969 and comprises twin cell steel box girders with a composite reinforced concrete deck slab over two continuous spans supported on full height reinforced concrete abutments and reinforced concrete piers with plinths, all on spread footings on rock. In addition, a third short end span of precast prestressed beams is provided at the north end of the structure. The structure crosses over the River Spey on a square alignment and the span lengths are 46.7m, 61m and 12.19m from south to north respectively. The road over the structure comprises a 7.3m wide carriageway and 1.83m wide footways on each side. The minimum available headroom below the structure is in excess of 8m over the main river span. Vehicle containment comprises 1m high P2 metal parapets of unknown design speed.

Condition

The most recent General and Principal Inspections (2013 and 2009 respectively) identified a number of category 3 and 4 defects including water ingress at movement joints causing corrosion of box sections and bearings and rust staining to abutments, broken drainage discharge pipes and sub-standard safety barriers.

Review against current standards

The cross section of this structure does not meet current standards required for a single carriageway. The carriageway width of 7.3m does not meet the requirement of 9.3m.

The parapet containment over the structure does not comply with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. Assessment records indicate an assessed load carrying capacity of full BD 21 assessment live loading and 45 units of HB loading.

Parallel Widening

The structure crosses the River Spey which is designated as a SAC. This will require careful consideration as activity within the SAC is strictly regulated under European Environmental legislation which will likely place restrictions on the form and construction of the structure.

This structure could be extended by asymmetrical widening of the existing deck to either the north or south of the structure on a widened substructure. Alternatively, the existing structure could be demolished and replaced with a new structure or a twin deck solution could be applied maintaining the existing deck to carry one carriageway and construction a new bridge to carry the other.

Further assessment will be required to determine the optimum solution with consideration given to the constraints adjacent to the structure including the SAC, the listed Toll House building, Baxters of Speyside and the cycle and pedestrian route over the Fochabers Old Bridge. Construction phasing to maintain traffic flow during construction and whole life costing will also be key considerations.

(iv) Gordon Castle Main Driveway Bridge (A96 408)

Description

Located approximately 250m east of Spey Bay Roundabout, the structure carries the access road to Gordon Castle over the A96. It was constructed circa 2011 and comprises a reinforced concrete deck on full height integral abutments on reinforced concrete spread footings. The structure crosses the A96 on a skew of 19 degrees. The clear square span between abutments is 18.5m. The road under the structure comprises a carriageway approximately 13.5m wide including hard strips with grassed verges 2.5m wide minimum. The minimum available headroom below the structure is 5.7m. Vehicle containment comprises 1m high N2 reinforced concrete masonry faced parapets.

Condition

This structure was built in 2011 and therefore no inspection records are available.

Review against current standards

The cross section of the A96 below this structure complies with current standards required for a wide single (S2+1) carriageway.

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading. HB design loading is unknown. This structure has not been assessed.

Parallel Widening

This structure could not readily be extended. The structure would need to be demolished and replaced to accommodate rural D2AP cross section.

(v) Gordon Castle Farm Access Bridge (A96 407)

Description

Located approximately 1km east of Spey Bay Roundabout, the structure carries the A96 over the access road to Gordon Castle Farm. It was constructed circa 2011 and comprises a 3 span structure of solid slab construction supported on reinforced concrete columns and reinforced concrete skeleton abutments. The structure crosses the farm access track on a square alignment. The span lengths are recorded as 9.6m. The road over the structure comprises a carriageway approximately 13.5m wide including hard strips with raised verges 2.5m wide. The minimum available headroom below the structure is 6m. Vehicle containment comprises 1m high N2 metal parapets with acoustic barrier.

Condition

This structure was built in 2011 and therefore no inspection records are available.

Review against current standards

The cross section over this structure complies with current standards required for a wide single (S2+1) carriageway.

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. This structure has not been assessed.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(vi) Fochabers East Roundabout Underpass (A96 406)

Description

Located approximately 50m west of Fochabers Roundabout, the structure carries the single carriageway A96 over a farm access track. It was constructed circa 2011 and comprises a reinforced concrete box type structure. The structure passes below the A96 on a skew of 11 degrees. The internal span is approximately 3m. The road over the structure comprises a carriageway approximately 13.5m wide including hard strips with grassed verges 2.5m wide minimum. The minimum available headroom through the structure is 2.4m. Vehicle containment comprises 1m high N2 metal parapets.

Condition

This structure was built in 2011 and therefore no inspection records are available.

Review against current standards

The cross section of the A96 over this structure complies with current standards required for a wide single (S2+1) carriageway.

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. This structure has not been assessed.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(vii) Drumlachs Underpass (A96 405)

Description

Located approximately 500m south of Fochabers East Roundabout, the structure carries the single carriageway A96 over a pedestrian access. It was constructed circa 2011 and comprises a reinforced concrete box type structure on spread foundations. The structure passes below the A96 on a square alignment. The internal span is approximately 3m. The road over the structure comprises a carriageway approximately 12m wide including hard strips with verges 2.5m wide minimum. The minimum available headroom through the structure is 2.4m. Vehicle containment comprises 1m high N2 metal parapets.

Condition

This structure was built in 2011 and therefore no inspection records are available.

Review against current standards

The cross section of the A96 over this structure complies with current standards required for a single carriageway with climbing lane (WS2) carriageway.

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. This structure has not been assessed.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(viii) Rumbuch (A96 400)

Description

Located approximately 1.2km northwest of the junction with the B9016, the structure carries the single carriageway A96 over Burn of Crooksmill. It was

constructed circa 1830 and comprises an original central section of masonry arch construction with more recent reinforced concrete slab extensions to each side. The structure passes over the Burn of Crooksmill on a square alignment. The span of the structure is approximately 4.5m. The road over the structure comprises a carriageway approximately 7m wide with raised verges of approximately 2m and 3m on the east and west sides respectively. The minimum available headroom through the structure is 1.5m. Vehicle containment comprises 1m high P2(113) vehicle pedestrian metal parapets on each side.

Condition

The most recent General and Principle Inspections (2012 and 2014 respectively) indicate that the structure is generally in a good condition. However, a number of category 3 defects were identified in relation to lack of pedestrian protection to wingwalls and scour at the foundations. In addition, a scour inspection carried out in 2014 also identified scour to 200mm depth at the inlet and erosion of the river bed at the inlet and outlet.

Review against current standards

The cross section of this structure does not meet current standards required for a single carriageway. The carriageway width of approximately 7m does not meet the requirement of 9.3m and the structure would need to be widened to accommodate a standard single carriageway cross section.

The parapet containment over the structure complies with current standards.

Following an initial assessment of this structure in 1990 which concluded that the widened sections of the structure were not able to support full assessment loading, the structure was strengthened in 1991 to carry full HA loading. The original masonry arch has 35 units of HB capacity whilst the new concrete extensions each side have 45 units of HB capacity.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance to the side extensions. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(ix) Minor Structures

The 6 No. culverts and 1 No. retaining wall located within Section 5 are as follows:

- A96 410 C33 Blackburn Culvert 1;
- A96 407 W75 Lake Retaining Wall;
- A96 400 C71 Fochabers Mill Lade;
- A96 400 C54 Fochabers Wood 2;
- A96 400 C50 Fochabers Wood 1;
- A96 400 C35 Aulthash; and
- A96 390 C64 Rumbuck Cottage.

It should be noted that A96 410 C33 Blackburn Culvert 1 was constructed in 2011 and no inspection records are available.

It should be noted that A96 407 W75 Lake Retaining Wall was constructed in 2011 and no inspection records are available.

It should be noted that there are no General or Principal Inspection reports available for A96 400 C71 Fochabers Mill Lade and hence its condition is unknown.

It should be noted that the 2011 Principal Inspection of A96 400 C50 Fochabers Wood 1 identified that moderate scour was occurring to the central masonry arch section of the culvert. However, a scour inspection undertaken in 2014 indicated that there were no issues pertaining to scour at the structure.

It should be noted that there are no General or Principal Inspection reports available for A96 390 C64 Rumbuck Cottage and hence its condition is unknown.

No other category 3 or 4 defects other than those noted above affect these minor structures.

(f) Section B6: West of Keith to west of Huntly

In this section there are 4 No. bridges and 6 No. culverts. The road is single carriageway throughout.

(i) Bogbain (A96 390)

Description

Located approximately 200m north-west of the junction with the B9016, the structure carries the single carriageway A96 over Burn of Crooksmill. It was constructed circa 1980 and comprises a reinforced concrete box type structure. The structure passes over the Burn of Crooksmill on a skew of 20 degrees. The span of the structure is 7.7m. The road over the structure comprises a carriageway approximately 7m wide with raised verges of approximately 1.5m and 2m on the east and west sides respectively. The minimum available headroom through the structure is 3.03m. Vehicle containment comprises 1.05m high P2 vehicle pedestrian metal parapets on each side of unknown design speed.

Condition

The most recent General Inspections (2010 and 2012) indicate that the structure is in a good condition with only minor defects. No category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure does not meet current standards required for a single carriageway. The carriageway width of approximately 7m does not meet the requirement of 9.3m and the structure would need to be widened to accommodate a standard single carriageway cross section.

The parapet containment over the structure complies with current standards. However, the safety barriers on the exits from the structure are of insufficient length to comply with current standards.

The structure is recorded as being designed to accommodate full HA loading and 30 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance to the side extensions. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(ii) Coachford Underpass (A96 345)

Description

Located approximately 3km south of the junction with the B9115, the structure carries the single carriageway A96 over an unclassified road. It was constructed circa 2005 and comprises a reinforced concrete box type structure on spread foundations. The structure passes below the A96 on a skew of 43 degrees. The clear square internal span is 9m. The road over the structure comprises a carriageway approximately 9.3m wide including hard strips with verges 2.5m wide minimum. The minimum available headroom through the structure is 5.23m. Vehicle containment comprises 1m high N2 metal parapets.

Condition

The most recent Principle Inspection of 2014 indicates that the structure is in a generally good condition. However, there are cracks in the deck soffit which were resin injected in 2009. No other category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure complies with current standards required for a single carriageway with climbing lane (WS2) carriageway.

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. This structure has not been assessed.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(iii) Cairnie (A96 340)

Description

Located approximately 4km to the south of the junction with the B9115, the structure carries the single carriageway A96 over Burn of Cairnie. It was constructed circa 1937 and comprises a reinforced concrete box type structure. The structure is on a square alignment and the clear span length is 4.9m. The road over the structure comprises a single carriageway approximately 7m wide with approximately 1.5m wide grassed verges on each

side. The minimum available headroom below the structure is 2.0m. No vehicle containment is provided over the structure.

Condition

The most recent General Inspection of 2014 indicates that the structure is in a good condition. However, through deck safety fencing should be provided. In addition, a 2014 scour inspection identified scour at the inlet and outlet. No other category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure does not meet current standards required for a single carriageway. The carriageway width of approximately 7m does not meet the requirement of 9.3m. The structure would require to be widened to achieve the current cross section standard for a single carriageway.

The vehicle containment over the structure does not comply with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. Assessment records indicate an assessed load carrying capacity of full BD 21 assessment live loading and 31 units of HB loading.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(iv) Bogmoor (A96 330)

Description

Located approximately 4.9km to the south of the junction with the B9115, the structure carries the single carriageway A96 over an unnamed watercourse. It was constructed circa 1939 and comprises a reinforced concrete slab deck supported by full height propped abutments on spread foundations. The structure carries the A96 over the watercourse on a skew of approximately 30 degrees and the clear square span length is 2.8m. The road over the structure comprises a single carriageway approximately 7.4m wide with 2.3m wide grassed verge on the west side and a 2.4m wide grassed verge on the east side. The minimum available headroom below the structure is 1.8m. No vehicle containment is provided over the structure.

Condition

The most recent Principal and General Inspections of 2010 and 2014 respectively indicate that the structure is in a good condition. However, safety barriers should be provided over the structure and pedestrian protection provided at the headwalls and wingwalls. No other category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure does not meet current standards required for a single carriageway. The carriageway width of approximately 7.4m does

not meet the requirement of 9.3m. The structure would require to be widened to achieve the current cross section standard for a single carriageway.

The vehicle containment over the structure does not comply with current standards.

The structure is recorded as being designed to accommodate full HA loading and 40 units of HB loading. Assessment records indicate an assessed load carrying capacity of full BD 21 assessment live loading and 40 units of HB loading.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(v) Minor Structures

The 6 No. culverts and 1 No. retaining wall located within Section 6 are as follows:

- A96 345 C80 Denhead;
- A96 345 C75 Tarnash;
- A96 345 C74 Tarnash Culvert 2;
- A96 345 C73 Tarnash Culvert 1;
- A96 345 C60 Netherton; and
- A96 345 C31 Arachie Burn.

It should be noted that there are no General or Principal Inspection reports available for A96 345 C80 Denhead and hence its condition is unknown.

It should be noted that the 2013 General Inspection and 2011 Principal Inspection of A96 345 C75 Tarnash identified that safety barriers should be installed in the verges to provide vehicle protection and that pedestrian protection should be provided at the headwalls.

It should be noted that the 2013 General Inspection and 2011 Principal Inspection of A96 345 C74 Tarnash Culvert 2, which runs parallel to the A96, identified that extensive vegetation and tree growth was present at the headwalls and may cause structural damage.

It should be noted that both the 2014 Principle Inspection of A96 345 C60 Netherton identified the need for through deck safety fencing.

No other category 3 or 4 defects other than those noted above affect these minor structures.

(g) Section B7: West of Huntly to east of Huntly

In this section there are 5 No. bridges, 1 No. culvert and 2 No. retaining walls. The road is single carriageway throughout.

(i) Deveron (A96 320)Description

Located approximately 150m south of the junction with the B9022 north-west of Huntly, the structure carries the single carriageway A96 over the River Deveron. It was constructed circa 1978 and comprises a single span steel concrete composite deck supported on full height reinforced concrete abutments. The structure carries the A96 over the river on a skew of approximately 15 degrees and the span length is approximately 19m between bearings. The road over the structure comprises a single carriageway approximately 7.3m wide and 2 no. raised verges approximately 2m wide. The minimum headroom below the structure is 4.44m. Vehicle containment comprises 1m high metal P1 vehicle pedestrian parapets.

Condition

The most recent Principal Inspection of 2011 and General Inspection of 2013 indicate that the structure is in a good condition with only minor defects. No category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure does not meet current standards required for a single carriageway. The carriageway width of approximately 7.3m does not meet the requirement of 9.3m. The structure would require to be widened to achieve the current cross section standard for a single carriageway.

The parapet containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(ii) Meadowburn Underpass (A96 310)Description

Located approximately 400m south of the junction with the B9022 north-west of Huntly, the structure carries the single carriageway A96 over a C class road and Meadow Burn. It was constructed circa 1978 and comprises a reinforced concrete solid slab deck on full height reinforced concrete cantilever abutments. The structure passes below the A96 on a skew alignment of 14 degrees. The clear square internal span is 5m. The road over the structure comprises a carriageway approximately 7.3 wide with raised verges 10m wide on the west side and 3.3m wide on the east side. The minimum available headroom through the structure is 2.31m. Vehicle containment comprises 1m high metal P2 vehicle pedestrian parapets of unknown design speed in conjunction with an untensioned corrugated steel safety barrier in the east verge. A pedestrian guardrail is also provided through the structure between the side road and burn.

Condition

The most recent General Inspections of 2012 and 2014 indicate that the structure is in a good condition. However, pedestrian protection to headwalls is required to the east headwalls. No other category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure does not meet current standards required for a single carriageway. The carriageway width of approximately 7.3m does not meet the requirement of 9.3m. However, it would be possible to realign the road to the west and make use of the very wide west verge to increase the carriageway width subject to checking of sightlines.

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway although local adjustment to the C class side road may be required to avoid reducing the headroom below the existing headroom. This solution would provide consistency of function and form.

(iii) Bogie (A96 300)

Description

Located approximately 850m east of the junction with the A97 south of Huntly, the structure carries the single carriageway A96 over the River Bogie. It was constructed circa 1978 and comprises a single span steel concrete composite deck supported on full height reinforced concrete abutments on reinforced concrete spread footings. The structure carries the A96 over the river on a skew of approximately 49 degrees and the clear square span is approximately 24.2m between bearings. The road over the structure comprises a single carriageway approximately 7m wide and 2 no. raised verges approximately 2m wide. The minimum headroom below the structure is 3.7m. Vehicle containment comprises 1m high metal P2 vehicle pedestrian parapets of unknown design speed.

Condition

The most recent Principal Inspection of 2011 and General Inspection of 2013 indicate that the structure has a number of category 3 defects including replacement of substandard parapets and safety barriers, provision of pedestrian protection to headwalls, carriageway and verge repairs, replacement of movement joints, concrete repairs to abutments and painting of deck steelwork.

Review against current standards

The cross section of this structure does not meet current standards required for a single carriageway. The carriageway width of approximately 7.3m does

not meet the requirement of 9.3m. The structure would require to be widened to achieve the current cross section standard for a single carriageway.

The parapet containment over the structure and approach and exit safety barriers do not comply with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(iv) Huntly Rail Overbridge (A96 290)

Description

Located to the south-east of the town of Huntly, the structure carries the single track Aberdeen to Inverness Railway Line over the A96. It was constructed circa 1978 and comprises a single span of steel plate through girder construction. The abutments are set back from the A96 and retaining walls (A96 120 W1) are provided between the road and abutments to retain fill material in front of the abutments. The structure has a skew of approximately 43 degrees and the skew span length is unknown. The minimum available headroom to the A96 below is 5.18m. The main trough plate girders provide protection to pedestrians on the structure. The structure is owned and maintained by Network Rail.

Condition

No inspection records are available for this structure.

Review against current standards

The cross section of the A96 through this structure does not meet the current standards required for a single carriageway.

There is no record of the design loading or of an assessment of load carrying capacity of this rail over road bridge.

Parallel Widening

This structure could not readily be extended to accommodate a dual carriageway due to the severe disruption this would cause to the railway.

(v) Thaines Burn (A96 280)

Description

Located approximately 1.35km east of the junction with the A97 south of Huntly, the structure carries the single carriageway A96 over Thaines Burn. It was constructed circa 1978 and comprises a corrugated steel buried structure. The structure carries the A96 over the watercourse on a skew alignment of approximately 35 degrees and has a diameter of 3.2m. The road over the structure comprises a single carriageway approximately 9.5m wide with

central hatching and no hard strips with 5.2m wide grassed verge on the south side and a 4.2m wide grassed verge on the north side. The minimum available headroom through the structure is 3.05m. Untensioned steel safety barriers are provided over the structure in the road verges on both sides.

Condition

The most recent General Inspections of 2012 and 2014 indicate that water leakage through the joints in the plates is causing breakdown of the protective system to the underlying steel. In addition, pedestrian protection is the headwalls is required. No other category 3 or 4 defects were identified

Review against current standards

The cross section of the A96 over this structure meets current standards required for a single carriageway. The carriageway width of approximately 9.5m meets the requirement of 9.3m. The structure would not require to be widened to achieve the current cross section standard for a single carriageway. However, it should be noted that a left turn lane is provided in the middle of the carriageway immediately to the east of the structure and this should be taken into account if widening to provide 1m wide hard strips.

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(vi) Minor Structures

The 1 No. culvert and 1 No. retaining wall located within Section 7 are as follows:

- A96 290 C95 Mill Lade; and
- A96 120 W1 Huntly Rail.

It should be noted that A96 120 W1 Huntly Rail comprises 2 no. retaining walls located directly below Huntly Rail Overbridge (A96 290), one wall on each side of the A96, and retain fill material in front of each abutment.

No category 3 or 4 defects have been recorded for these minor structures.

(h) Section B8: East of Huntly to Old Rayne

In this section there are 5 No. bridges and 3 No. culverts. The road is single carriageway throughout.

(i) Agricultural Underpass (A96 275)Description

Located approximately 3.7km south-east of the junction with the A97, the structure carries the single carriageway A96 over a farm access track. It was constructed circa 2004 and comprises a single span integral portal structure with a reinforced concrete deck on full height steel sheet pile abutments. The structure passes below the A96 on a skew of 5 degrees. The clear square internal span is 5.25m. The road over the structure comprises a carriageway approximately 12m wide including hard strips and southbound overtaking lane with verges approximately 1.5m wide on the west side and approximately 2.5m wide on the east side. The minimum available headroom through the structure is 4.48m. Vehicle containment comprises 1m high P2 metal vehicle pedestrian parapets.

Condition

The most recent General and Principle Inspections (2012 and 2014 respectively) indicate that the structure is in a good condition with no defects. No category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure complies with current standards required for a single carriageway with climbing lane (WS2) carriageway.

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading. No HB design loading is recorded. This structure has not been assessed.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(ii) Whinbrae Underpass (A96 270)Description

Located approximately 6.6km south-east of the junction with the A97, the structure carries the single carriageway A96 over a farm access track. It was constructed circa 1992 and comprises a reinforced concrete box type structure. The structure passes below the A96 on a square alignment. The clear square internal span is 4.5m. The road over the structure comprises a carriageway approximately 12.1m wide including hard strips and northbound overtaking lane with grass verges approximately 4m wide on each side. The minimum available headroom through the structure is 4.38m. Vehicle containment comprises tensioned corrugated safety barriers in both verges.

Condition

The most recent General Inspection of 2014 indicates that the structure is in a good condition with only minor defects. No category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure complies with current standards required for a single carriageway with climbing lane (WS2) carriageway.

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(iii) Bainshole (A96 260)

Description

Located approximately 5km north-west of the junction with the A920, south-east of Huntly, the structure carries the single carriageway A96 over Glen Water. It was constructed circa 1939 and comprises a reinforced concrete slab deck supported on full height mass concrete gravity abutments. The structure carries the A96 over the watercourse on a skew alignment of approximately 25 degrees and has a clear square span of 6.1m. The road over the structure comprises a single carriageway approximately 6.2m wide with 2.8m wide verges on each side. The minimum available headroom below the structure is 1.6m. Vehicle containment comprises non-standard masonry parapets with corrugated steel safety barrier provided over the structure in the road verge on the north side.

Condition

The most recent General Inspection of 2014 indicates that the structure is generally in good condition with the exception that safety barrier should be installed in the south verge and that pointing repairs are required to the masonry parapets. No other category 3 or 4 defects were identified

Review against current standards

The cross section of this structure does not meet current standards required for a single carriageway. The carriageway width of approximately 6.1m does not meet the requirement of 9.3m. The structure would require to be widened to achieve the current cross section standard for a single carriageway.

The vehicle containment over the structure does not comply with current standards.

The structure is recorded as being designed to accommodate full HA loading and 40 units of HB loading. Assessment records indicate an assessed load carrying capacity of full BD 21 assessment live loading and 21 units of HB loading.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to the north due to the presence of a house immediately to the south-east of the structure. This solution would provide consistency of function and form.

(iv) Kellock (A96 250)

Description

Located at the junction with the B992, the structure carries the single carriageway A96 over The Kellock. It was constructed circa 1973 and comprises a reinforced concrete portal type structure on spread footings. The structure carries the A96 over the watercourse on a skew alignment of approximately 15 degrees and has a clear square span of 3.8m. The road over the structure comprises a single carriageway approximately 9.5m wide with 3.5m wide verge on the west and 4.7m wide verge on the east. The minimum available headroom below the structure is 3.0m. Vehicle containment comprises tensioned corrugated steel safety barrier provided over the structure in the road verge on the each side.

Condition

The most recent Principal Inspection of 2011 and General Inspection of 2013 indicated that a number of category 3 defects were present including lack of pedestrian protective fencing to the northeast headwall and the presence of giant hogweed on the river bank adjacent to the structure. No other category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure meets current standards required for a single carriageway. However, it should be noted that the carriageway is widened over the structure to accommodate northbound and southbound right turn lanes onto the B992. The structure would require to be widened to achieve the current cross section standard for a single carriageway incorporating a right turn lane.

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. Assessment records indicate an assessed load carrying capacity of full BD 21 assessment live loading and 45 units of HB loading.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(v) Shevock (A96 240)Description

Located approximately 3km south-east of the junction with the B992, the structure carries the single carriageway A96 over The Shevock. It was constructed circa 1969 and comprises a solid reinforced concrete deck slab supported on full height cantilever abutments on spread footings. The structure carries the A96 over the watercourse on a skew alignment of approximately 13 degrees and has a clear square span of 6.5m. The road over the structure comprises a single carriageway approximately 7.5m wide with 3.7m wide grassed verges on each side. The minimum available headroom below the structure is 1.75m. Vehicle containment comprises corrugated steel safety barrier provided over the structure in the road verge on the each side.

Condition

The most recent Principal Inspection of 2011 indicated that the structure was in a good condition. No category 3 or 4 defects were identified

Review against current standards

The cross section of this structure does not meet current standards required for a single carriageway. The structure would require to be widened to achieve the current cross section standard for a single carriageway incorporating a right turn lane.

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. Assessment records indicate an assessed load carrying capacity of full BD 21 assessment live loading and 45 units of HB loading.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(vi) Minor Structures

The 3 No. culverts located within Section 8 are as follows:

- A96 260 C10 Wedder Burn;
- A96 260 C5 Peterden; and
- A96 250 C35 Colpy.

It should be noted that there are no General or Principal Inspection reports available for A96 260 C10 Wedder Burn and hence its condition is unknown.

It should be noted that the 2011 Principal Inspection of A96 260 C5 Peterden identified that safety barriers should be installed in the verges over the structure and that pedestrian protective fencing should be provided to the headwalls and wingwalls.

It should be noted that the 2011 Principal Inspection of A96 250 C35 Colpy identified that pedestrian protective fencing should be provided to the headwalls and wingwalls. In addition, a 2014 scour inspection found scour occurring at the inlet.

No other category 3 or 4 defects other than those noted above affect these minor structures.

(i) Section B9: Old Rayne to Kintore

In this section there are 15 No. bridges, 6 No. culverts and 3 No. retaining walls. The road is single carriageway north of the junction with the B993 and dual carriageway south of the junction with the B993.

(i) Carden (A96 230)

Description

Located immediately north of the junction with the B9002, the structure carries the single carriageway A96 over the Gadie Burn. It was constructed circa 1900 and comprises a two span arch type structure. The western half of the structure comprises a masonry arch on masonry abutments and pier whilst the eastern half of the structure comprises a concrete arch on concrete abutments and pier. The structure carries the A96 over the watercourse on a square alignment and has twin clear square spans of 5.4m. The road over the structure comprises a single carriageway varying in width due to the proximity of the junction with the B9002. The minimum available headroom below the structure is 2.3m. Vehicle containment comprises non-standard masonry parapets on each side.

Condition

The most recent Principal and General Inspections (2011 and 2013 respectively) indicated that the structure was in a reasonable condition. However, water ingress to the north-east parapet is causing spalling of the parapet and spandrel stonework due to water saturation through the top of the parapet which lacks a cope stone over its full length. It should be noted that the structure is monitored on a bi-monthly basis for any further deterioration in this respect and is currently being assessed for load carrying capacity. In addition, safety fencing protection to the end of the parapets is required. No other category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure does not meet current standards required for a single carriageway. The structure would require to be widened to achieve the current cross section standard for a single carriageway incorporating a right turn lane.

The vehicle containment over the structure does not comply with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. Assessment records indicate an assessed load carrying capacity of full BD 21 assessment live loading and 45 units of HB loading.

Parallel Widening

This structure could not readily be extended, due to the proximity of the junction with the B9002.

(ii) Inveramsay Rail Overbridge (A96 220)

Description

Located approximately 5km to the north of the junction with the B9170 at Inverurie, the structure carries the Aberdeen to Inverness Railway Line over the single carriageway A96. It was constructed circa 1890 and comprises a single span masonry arch structure with masonry abutments. The structure has a skew of approximately 26 degrees and the skew span length is unknown. The deck is 9.6m wide. The signed available headroom to the A96 below is 4.65m. Masonry parapets are provided over the structure. The structure is owned and maintained by Network Rail.

Condition

No inspection records are available for this structure.

Review against current standards

The cross section of the A96 through this structure does not meet the current standards required for a single carriageway. Traffic through the structure is single file controlled by traffic lights located on each approach to the structure.

There is no record of the design loading or of an assessment of load carrying capacity of this rail over road bridge.

Parallel Widening

This structure could not readily be extended to accommodate a dual carriageway due to the severe disruption this would cause to the railway. In addition, the current cross-section of the A96 below the structure is single lane and controlled by traffic signals.

It should also be noted that a scheme for the realignment of the A96 around the Inveramsay Rail Overbridge is currently under construction.

(iii) Inveramsay Underpass (A96 210)

Description

Located approximately 3.2km to the north of the junction with the B9170 at Inverurie, the structure carries the single carriageway A96 over a farm access track. It was constructed circa 1990 and comprises a reinforced concrete box type structure. The structure passes below the A96 on a square alignment. The clear square internal span is 3.75m. The road over the structure comprises a carriageway approximately 9.3m wide including hard strips with 2.5m wide raised verges on each side. The minimum available headroom through the structure is 2.88m. Vehicle containment comprises 1m high P2(113) vehicle pedestrian parapets on both sides.

Condition

The most recent General and Principal Inspections (2013 and 2011 respectively) indicate that the structure is in a good condition. No category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure complies with current standards required for a single carriageway (S2).

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(iv) Strathnaterick (A96 200)

Description

Located approximately 3km to the north of the junction with the B9170 at Inverurie, the structure carries the single carriageway A96 over the Strathnaterick Burn. It was constructed circa 1990 and comprises a circular corrugated steel buried type structure. The structure passes below the A96 on a square alignment. The clear square internal span is 3.2m. The road over the structure comprises a carriageway approximately 9.3m wide including hard strips with 3.6m wide raised verges on each side. The minimum available headroom through the structure is 3.14m. Vehicle containment comprises tensioned corrugated safety barriers on both verges.

Condition

The most recent General and Principal Inspections (2013 and 2011 respectively) indicate that the structure is in a good condition with only minor defects noted. No category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure complies with current standards required for a single carriageway (S2).

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the

widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(v) Drimmies Farm Underpass (A96 190)

Description

Located approximately 2.7km to the north of the junction with the B9170 at Inverurie, the structure carries the single carriageway A96 over a farm access track. It was constructed circa 1990 and comprises a reinforced concrete box type structure. The structure passes below the A96 on a square alignment. The clear square internal span is 4.5m. The road over the structure comprises a carriageway approximately 11.6m wide including a southbound left turning lane and hard strips with a 3.7m wide verge on the west side and a 2.35m wide verge on east side. The minimum available headroom through the structure is 4.37m. Vehicle containment comprises tensioned corrugated safety barriers on both verges.

Condition

The most recent General and Principal Inspections (2013 and 2011 respectively) indicate that the structure is in a good condition. However, both the General and Principal Inspections identified that the safety barrier on the west verge is too low and should be raised. No other category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure complies with current standards required for a single carriageway (S2). It should be noted however that the carriageway is wider than 9.3m to accommodate a southbound left turn lane immediately south of the structure.

The vehicle containment over the structure does not comply with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(vi) Conglas Cattle Underpass (A96 180)

Description

Located approximately 1.5km to the north of the junction with the B9170 at Inverurie, the structure carries the single carriageway A96 over a farm access track. It was constructed circa 1990 and comprises a reinforced concrete box type structure. The structure passes below the A96 on a square alignment. The clear square internal span is 3.75m. The road over the structure comprises a carriageway approximately 9.3m wide including hard strips with a 12.52m wide verge on the west side and a 2.82m wide verge on east side.

The minimum available headroom through the structure is 2.83m. Vehicle containment comprises tensioned corrugated safety barriers on both verges.

Condition

The most recent General and Principal Inspections (2013 and 2011 respectively) indicate that the structure is in a good condition. No category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure complies with current standards required for a single carriageway (S2).

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(vii) Inverurie Underpass (A96 175)

Description

Located at the junction with the B9170 at Inverurie, the structure carries the single carriageway A96 over a local footpath. It was constructed circa 2002 and comprises a reinforced concrete box type structure. The structure passes below the A96 on a skew alignment of approximately 50 degrees. The clear square internal span is 5m. The road over the structure comprises a carriageway approximately 9.3m wide including hard strips with a 2m wide verge on the west side and a 1.92m wide verge on east side. The minimum available headroom through the structure is 2.35m. Vehicle containment comprises 1m high P2(113) vehicle pedestrian parapets on both sides.

Condition

The most recent General and Principal Inspections (2013 and 2010 respectively) indicate that the structure is in a good condition. However, the Principal Inspection identified three diagonal cracks in the soffit which should be monitored. No category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure does not comply with current standards required for a single carriageway (S2). It should be noted that the structure is situated immediately north of a roundabout junction with the B9170.

The vehicle containment over the structure does not comply with current standards due to substandard lengths on the approach/exit to the structure.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form. However, cognisance would need to be taken of the close proximity of the roundabout immediately south of the structure.

(viii) Inverurie Golf Underpass (A96 170)

Description

Located approximately 100m south of the junction with the B9170 at Inverurie, the structure carries the single carriageway A96 over the golf course access road. It was constructed circa 1990 and comprises a reinforced concrete box type structure. The structure passes below the A96 on a square alignment. The clear square internal span is 4.5m. The road over the structure comprises a carriageway approximately 9.3m wide including hard strips with 2.5m wide raised verges on each side. The minimum available headroom through the structure is 4.2m. Vehicle containment comprises 1m high P2(113) vehicle pedestrian parapets on both sides.

Condition

The most recent General and Principal Inspections (2013 and 2011 respectively) indicate that the structure is generally in a good condition. However, the 2013 General Inspection identified that the left hand side pedestrian fencing needs to be extended. No other category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure complies with current standards required for a single carriageway (S2).

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to either side of the carriageway. This solution would provide consistency of function and form.

(ix) Upperboat Overbridge (A96 160)

Description

Located approximately 1.3km south of the junction with the B9170 and immediately north of the crossing over the River Don, the structure carries St

James's Place over the single carriageway A96. It was constructed circa 1990 and comprises a three span steel concrete composite deck type structure with reinforced concrete skeleton abutments and leaf piers founded on spread footings. The structure passes over the A96 on a skew alignment of approximately 30 degrees. The square spans are 11m, 12.2m and 8.9m from west to east respectively. The road under the structure comprises a carriageway approximately 9.3m wide including hard strips with grassed verges on each side. The minimum available headroom through the structure is 5.365m. Vehicle containment over the structure comprises 1m high P2(113) vehicle pedestrian parapets on both sides whilst trapezoidal safety barriers are attached directly to the traffic faces of the leaf piers.

Condition

The most recent General and Principal Inspections (2013 and 2011 respectively) indicate that the structure good condition. However, a number of category 3 and 4 defects were identified including vehicle impact to the steel beams, replacement of a parapet post required due to expansive gas fracturing and replacement of corroded safety barrier posts. No other category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure complies with current standards required for a single carriageway (S2).

The vehicle containment over and below the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 30 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure could not readily be extended to accommodate a dual carriageway. The structure would either require to be demolished and rebuilt to accommodate a second carriageway or alternatively a split carriageway arrangement adopted with a second bridge built to the west to avoid local housing immediately to the north-east.

(x) Don Inverurie New (A96 150)

Description

Located approximately 900m north of the junction with the B993 at Inverurie, the structure carries the single carriageway A96 over the River Don. It was constructed circa 1990 and comprises a four span steel concrete composite deck type structure supported on reinforced concrete column piers and skeleton abutments on spread foundations. The structure crosses the river on a square alignment. The spans are 25m, 42.5m, 42.5m and 30m from north to south. The road over the structure comprises a carriageway approximately 9.3m wide including hard strips with 1m wide raised verges on each side. The available headroom below the structure is 7m. Vehicle containment comprises 1m high P2(113) vehicle pedestrian parapets on both sides.

Condition

The most recent General and Principal Inspections (2013 and 2011 respectively) indicate that the structure is in a good condition. No category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure does not comply with current standards required for a single carriageway (S2) due to the narrow verges.

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure could readily be extended, adopting a similar form and appearance. Considering the topography and existing road alignment, the widening could be undertaken to the west due to the presence of local housing to the north-east. This solution would provide consistency of function and form.

(xi) Quarry Road Interchange (A96 140)

Description

Located at the Quarry Road Interchange at the north end of the Kintore Bypass, the structure carries the A96 dual carriageway over the interchange link road between the west and east roundabouts. It was constructed circa 1998 and comprises a reinforced concrete box type structure on spread foundations. The structure crosses the link road on a square alignment. The clear square span is 12.3m. The road over the structure comprises a dual carriageway with 2 no. 9.3m wide carriageways including hard strips, 2 no. 2.5m wide raised verges on each side and a 2.5m wide centre reserve. The minimum available headroom below the structure is 5.35m. Vehicle containment comprises 1m high P2(113) vehicle pedestrian parapets on both verges and wire rope safety barrier in the central reserve.

Condition

The most recent General and Principle Inspections (2012 and 2014 respectively) indicate that the structure is in a good condition. No category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure complies with current standards required for a rural dual carriageway (D2AP).

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure does not require to be widened to accommodate a D2AP cross section.

(xii) Forrest Road Overbridge (A96 130)

Description

Located approximately 450m south of Quarry Road Interchange on the Kintore Bypass, the structure carries a C class road over the A96 dual carriageway. It was constructed circa 1998 and comprises a two span reinforced concrete cast insitu solid slab deck type structure on twin column piers and full height integral abutments. The structure is founded on spread foundations on rock. The structure crosses the A96 on a skew alignment of 11 degrees. The span lengths are recorded as 16.2m and 17.9m. The A96 under the structure comprises a dual carriageway with 2 no. 9.3m wide carriageways including hard strips, 2 no. 2.5m wide grassed verges on each side and a widened centre reserve to accommodate the central pier and sight line widening. The minimum available headroom below the structure is 5.62m. Vehicle containment over the structure comprises 1.25m high P2(113) vehicle pedestrian parapets on both verges with metal safety barriers provided in the verges and centre reserve of the A96 below.

Condition

The most recent General and Principle Inspections (2012 and 2014 respectively) indicate that the structure is in a good condition. No category 3 or 4 defects were identified.

Review against current standards

The cross section of the A96 below the structure complies with current standards required for a dual carriageway (D2AP).

The vehicle containment over and under the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure does not require to be extended to accommodate a D2AP cross section.

(xiii) Castle Road Underpass (A96 120)

Description

Located approximately 1.25km south of Quarry Road Interchange on the Kintore Bypass, the structure carries the A96 dual carriageway over Castle Road. It was constructed circa 1998 and comprises a reinforced concrete box type structure on spread foundations. The structure crosses Castle Road on a skew alignment of 30 degrees. The clear square span is 4m. The road over the structure comprises a dual carriageway with 2 no. 9.3m wide carriageways including hard strips, 2 no. 2.5m wide grassed verges on each side and a widened centre reserve to accommodate the sight line widening. In addition,

the ends of the north facing slips from Dunnecht Road Overbridge carry over the structure. The minimum available headroom below the structure is 2.8m. Vehicle containment comprises tensioned corrugated safety barrier on both verges and wire rope safety barrier in the central reserve.

Condition

The most recent General and Principle Inspections (2012 and 2014 respectively) indicate that the structure is in a good condition. No category 3 or 4 defects were identified apart from offensive graffiti.

Review against current standards

The cross section of the A96 over the structure complies with current standards required for a dual carriageway (D2AP).

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure does not require to be extended to accommodate a D2AP cross section.

(xiv) Dunnecht Road Overbridge (A96 110)

Description

Located at the junction of the A96 and B977 on the Kintore Bypass, the structure carries the B977 over the A96 dual carriageway. It was constructed circa 1998 and comprises a two span reinforced concrete cast insitu solid slab deck type structure on column piers and full height integral abutments, all on spread foundations. The structure crosses the A96 on a skew alignment of 8 degrees. The spans are approximately 18.7m long. The A96 under the structure comprises a dual carriageway with 2 no. 9.3m wide carriageways including hard strips, 2 no. 2.5m wide paved verges on each side and a widened centre reserve to accommodate the central pier and sight line widening. The minimum available headroom below the structure is 5.56m. Vehicle containment over the structure comprises 1.25m high P2(113) vehicle pedestrian parapets on both verges with metal safety barriers provided in the centre reserve of the A96 below.

Condition

The most recent General and Principle Inspections (2012 and 2014 respectively) indicate that the structure is in a good condition. No category 3 or 4 defects were identified.

Review against current standards

The cross section of the A96 below the structure complies with current standards required for a dual carriageway (D2AP).

The vehicle containment over and under the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 30 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure does not require to be extended.

(xv) Kemnay Road Overbridge (A96 100)

Description

Located approximately 700m north of the junction of the A96 and B987 on the Kintore Bypass, the structure carries the B994 over the A96 dual carriageway. It was constructed circa 1998 and comprises a two span reinforced concrete cast insitu voided deck type structure on column piers and full height cantilever abutments, all on spread foundations. The structure crosses the A96 on a skew alignment of 41 degrees. The spans are approximately 23.3m long. The A96 under the structure comprises a dual carriageway with 2 no. 9.3m wide carriageways including hard strips, 2 no. 2.5m wide paved verges on each side and a widened centre reserve to accommodate the central pier and sight line widening. The minimum available headroom below the structure is 5.52m. Vehicle containment over the structure comprises 1.25m high P2(113) vehicle pedestrian parapets on both verges with metal safety barriers provided in the centre reserve of the A96 below.

Condition

The most recent General and Principle Inspections (2012 and 2014 respectively) indicate that the structure is in a good condition. No category 3 or 4 defects were identified.

Review against current standards

The cross section of the A96 below the structure complies with current standards required for a dual carriageway (D2AP).

The vehicle containment over and under the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 30 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure does not require to be extended to accommodate a D2AP cross section.

(xvi) Minor Structures

The 6 No. culverts and 3 No. retaining wall located within Section 9 are as follows:

- A96 230 C80 Mains of Pitmachie;
- A96 230 C1 Carden Flood Arch;
- A96 60 W31 Pitcapple 3 Retaining Wall;
- A96 60 W15 Pitcapple 1 Retaining Wall;

- A96 175 W1 Inverurie Underpass Crib Wall;
- A96 130 C58 Bridgalehouse Burn;
- A96 90 C85 Tuach Burn New;
- A96 90 C70 Sheriff Burn; and
- A96 90 C67 Sheriff Burn 1.

It should be noted that there are no General or Principal Inspection reports available for A96 230 C80 Mains of Pitmachie and hence its condition is unknown.

It should be noted that the 2014 General Inspection of A96 230 C1 Carden Flood Arch identified that the parapets are too low for pedestrian protection and that approach safety fencing should be installed to the parapets.

It should be noted that there are no General or Principal Inspection reports available for A96 60 W31 Pitcapple 3 Retaining Wall and hence its condition is unknown.

It should be noted that there are no General or Principal Inspection reports available for A96 60 W15 Pitcapple 1 Retaining Wall and hence its condition is unknown.

No other category 3 or 4 defects other than those noted above affect these minor structures.

(j) Section B10: Kintore to proposed junction with AWPR

In this section there are 4 No. bridges. The road is dual carriageway throughout.

(i) Boghead Farm Underpass (A96 90)

Description

Located approximately 1.35km south of the junction of the A96 and B987 on the Blackburn Bypass, the structure carries the A96 dual carriageway over a farm access track. It was constructed circa 1998 and comprises a reinforced concrete box type structure on spread foundations. The structure crosses below the A96 on a square alignment. The clear square span is 4.6m. The road over the structure comprises a dual carriageway with 2 no. 9.3m wide carriageways including hard strips, 2 no. 2.5m wide grassed verges on each side and a widened centre reserve to accommodate the sight line widening. The minimum available headroom below the structure is 4.57m. Vehicle containment comprises tensioned corrugated safety barrier on both verges and wire rope safety barrier in the central reserve.

Condition

The most recent Principle Inspection of 2014 indicates that the structure is in a good condition with only minor defects. No category 3 or 4 defects were identified.

Review against current standards

The cross section of the A96 over the structure complies with current standards required for a dual carriageway (D2AP).

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure does not require to be extended to accommodate a D2AP cross section.

(ii) Kinellar Road Overbridge (A96 80)

Description

Located approximately 400m north of the junction of the A96 and B979 north of Blackburn on the Blackburn Bypass, the structure carries an unclassified side road over the A96 dual carriageway. It was constructed circa 1998 and comprises a two span reinforced concrete cast insitu solid slab deck type structure on column piers and full height integral abutments, all on spread foundations. The structure crosses the A96 on a skew alignment of 14 degrees. The spans are approximately 17.5m long. The A96 under the structure comprises a dual carriageway with 2 no. 9.3m wide carriageways including hard strips, 2 no. 2.5m wide paved verges on each side and a widened centre reserve. The minimum available headroom below the structure is 6.25m. Vehicle containment over the structure comprises 1m high P2(113) vehicle pedestrian parapets on both verges with metal safety barriers provided in the centre reserve of the A96 below.

Condition

The most recent Principle Inspection of 2014 indicates that the structure is in a good condition with only minor defects. No category 3 or 4 defects were identified.

Review against current standards

The cross section of the A96 below the structure complies with current standards required for a dual carriageway (D2AP).

The vehicle containment over and under the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 30 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure does not require to be extended to accommodate a D2AP cross section.

(iii) Black Burn New (A96 70)

Description

Located approximately 1.05km south of the junction of the A96 and B979 north of Blackburn on the Blackburn Bypass, the structure carries the dual carriageway A96 over the Black Burn. It was constructed circa 1998 and

comprises a corrugated steel pipe arch type structure. The structure passes below the A96 on a skew alignment of 25 degrees. The clear square internal span is 4.1m. The road over the structure comprises a dual carriageway with 2 no. 9.3m wide carriageways including hard strips, 2 no. 2.5m wide grassed verges on each side and a widened centre reserve to accommodate the sight line widening. The minimum available headroom through the structure is 2.8m. Vehicle containment comprises tensioned corrugated safety barrier on both verges and wire rope safety barrier in the central reserve.

Condition

The most recent Principle Inspection of 2014 indicates that the structure is in a good condition with only minor defects. No category 3 or 4 defects were identified.

Review against current standards

The cross section of the A96 over the structure complies with current standards required for a dual carriageway (D2AP).

The vehicle containment over and under the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure does not require to be extended to accommodate a D2AP cross section.

(iv) Bishopston Farm Underpass (A96 60)

Description

Located approximately 1km south of the junction of the A96 and B979 on the Blackburn Bypass, the structure carries the A96 dual carriageway over a farm access track. It was constructed circa 1998 and comprises a reinforced concrete box type structure on spread foundations. The structure passes below the A96 on a square alignment. The clear square span is 5.7m. The road over the structure comprises a dual carriageway with 2 no. 9.3m wide carriageways including hard strips, a 2.5m wide verge on the southbound carriageway, a widened verge on the northbound carriageway and a widened centre reserve to accommodate sight line widening. The minimum available headroom below the structure is 4.55m. Vehicle containment comprises a 1m high P2(113) vehicle pedestrian parapet on the southbound verge, untensioned corrugated safety barrier on the northbound verge and wire rope safety barrier in the central reserve.

Condition

The most recent Principle Inspection of 2014 indicates that the structure is in a good condition with only minor defects. No category 3 or 4 defects were identified.

Review against current standards

The cross section of this structure complies with current standards required for a dual carriageway (D2AP).

The vehicle containment over the structure complies with current standards.

The structure is recorded as being designed to accommodate full HA loading and 45 units of HB loading. No assessment records are available for this structure.

Parallel Widening

This structure does not require to be extended to accommodate a D2AP cross section.

(v) Minor Structures

There are no minor structures located in this section.