

Historical Railways Estate
Detailed Examination Report
(Continuation Sheet)



Line:
EDEN VALLEY JCT
KIRKBY STEPHEN
{WARCOP}

Structure Identifier: **EDE/25**
OB: 25 - Stone arch, spandrels, abutments, wing walls & parapets & pilasters. NY: 765 136.

Remarks (Refer to parts by name)

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ARCH RINGS

Soffit

- ❖ **Slight deflection in stonework sagging up to 4mm at worst in places to the crown region.**
- ❖ Moderate friable erosion with loss of face to the stonework up to 40mm deep at worst to the N/W haunch, 700mm in from the north face, 950mm up from the west springer course, 1.00m x 350mm area.
- ❖ Moderate friable erosion with loss of face to the stonework up to 35mm deep at worst to the S/W haunch, 800mm in from the south face, 350mm up from the west springer course, 1.60m x 350mm area.
- ❖ Slight to moderate friable erosion with loss of face to the stonework up to 15mm deep at worst to the N/E haunch, 860mm in from the north face, 350mm up from the east springer course, 1.00m x 350mm area.
- ❖ Loss of face to the stonework to the N/E crown region, 1.50m in from the north face, 200mm x 45mm x 40mm area.
- ❖ Stonework repairs have been carried out since the last detailed examination to the west crown region 2.50m in from the south face, 400mm x 350mm area.
- ❖ 3No: Former S&T fixing voids to the stonework to the N/E haunch 300mm in from north face, 1No: Former S&T fixing void to the stonework to the N/E haunch 560mm in from north face, 3No: Former S&T fixing voids to the stonework to the S/E haunch 280mm in from south face.
- ❖ Moderate friable erosion with some drumminess to the remaining stonework with loss of face up to 15mm at worst in various places.
- ❖ Degraded mortar joints up to 15mm wide x 40mm {Av 25mm} deep at worst in widespread places, 5.00m² area.
- ❖ Previous render repairs have been carried out in the past to the mid section of the west haunch.
- ❖ Pointing repairs have been carried out since the last detailed examination in isolated places.
- ❖ Evidence of water ingress to the stonework below the verge areas.
- ❖ Discolouration, water staining with calcite & leachate deposits to the stonework in widespread places.

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ARCH RINGS {Cont}

Soffit {Cont}

- ❖ Some smoke discolouration to the stonework to the former blast area. P5 to P20.

Ring Face {33No: Facing stones to each elevation}

- ❖ Pointing repairs have been carried out since the last detailed examination in various places.
- ❖ Previous pointing repairs have been carried out in the past in various locations.
- ❖ Slight to moderate erosion to the stonework in places with some loss of face to the bottom arris in various locations.
- ❖ Fissure type fractured stonework up to 1mm at worst in very isolated places.
- ❖ Discolouration, water staining to the stonework in various places also some lichen growth in various locations.
- ❖ Some smoke discolouration to the stonework to the former blast areas. P21 to P35.

SPANDRELS

North Spandrel

- ❖ Previous pointing repairs have been carried out in the past in various locations.
- ❖ Pointing repairs have been carried out since the last detailed examination in various places.
- ❖ 1No: Separation fracture extends over the extrados of the arch has been pointed since the last detailed examination.
- ❖ Bulging/oversailing to the stonework up to 15mm at worst in places causing fractured mortar joints up to 2mm in very isolated locations.
- ❖ Slight erosion to the stonework in places with some loss of face in various locations.
- ❖ Fissure type fractured stonework up to 1mm at worst in very isolated places.
- ❖ Discolouration, water staining to the stonework in various places also some lichen growth in various locations.
- ❖ Some smoke discolouration to the stonework to the former blast area. P36 to P42.

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SPANDRELS *{Cont}*

South Spandrel

- ❖ Previous pointing repairs have been carried out in the past in various locations.
- ❖ Pointing repairs have been carried out since the last detailed examination in various places.
- ❖ 1No: Separation fracture extends over the extrados of the arch has been pointed since the last detailed examination.
- ❖ Bulging/oversailing to the stonework up to 8mm at worst in places causing fractured mortar joints up to 2mm in very isolated locations.
- ❖ Slight erosion to the stonework in places with some loss of face in various locations.
- ❖ Fissure type fractured stonework up to H/L at worst in very isolated places.
- ❖ Discolouration, water staining to the stonework in various places also some lichen growth in various locations.
- ❖ Some smoke discolouration to the stonework to the former blast area. P43 to P49.

ABUTMENTS *{6.30m Long x 1.33m High with 600mm returns}*

East Abutment

- ❖ Previous pointing repairs have been carried out in the past in various places.
- ❖ Pointing repairs have been carried out since the last detailed examination in isolated places.
- ❖ Moderate friable erosion with loss of face to the stonework up to 25mm deep at worst, 400mm in from the N/E quoin, 700mm up from G/L, 550mm x 300mm area.
- ❖ Slight erosion to the remaining stonework in places with some loss of face in various locations.
- ❖ Fissure type fractured stonework up to 2mm at worst in very isolated places.
- ❖ Discolouration, water staining with calcite deposits to the stonework in various places.
- ❖ No weep holes are visible. P50 to P57.

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ABUTMENTS {Cont}

West Abutment

- ❖ Previous pointing repairs have been carried out in the past in various places.
- ❖ Pointing repairs have been carried out since the last detailed examination in isolated places.
- ❖ Slight to moderate friable erosion to the stonework in places with some loss of face in various locations.
- ❖ Fissure type fractured stonework up to 2mm at worst in isolated places.
- ❖ Discolouration, water staining with calcite deposits to the stonework in various places.
- ❖ No weep holes are visible. P58 to P64.

WING WALLS {Partially concealed by spoil}

N/W Wing wall {4.80m Long x 3.35m High}

- ❖ Previous pointing repairs have been carried out in the past in various locations.
- ❖ Pointing repairs have been carried out since the last detailed examination in various places.
- ❖ Repairs to the stonework have been carried out since the last detailed examination at the return quoin 400mm up from G/L, 330mm x 200mm area.
- ❖ Repairs to the stonework have been carried out since the last detailed examination at the return quoin 1.30m up from G/L, 420mm x 270mm area.
- ❖ Bulging/oversailing to the stonework, up to 6mm at worst causing fractured mortar joints up to 2mm in isolated places.
- ❖ Slight friable erosion to the remaining stonework in places with some loss of face in various locations.
- ❖ Fissure type fractured stonework up to 2mm at worst in isolated places.
- ❖ Discolouration, water staining to the stonework in various places also some lichen growth in various locations. P65 to P69.

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WING WALLS {Cont}

N/E Wing wall {6.70m Long x 3.70m High}

- ❖ Previous pointing repairs have been carried out in the past in various locations.
- ❖ Pointing repairs have been carried out since the last detailed examination in various places.
- ❖ Repairs to the stonework have been carried out since the last detailed examination, 3.20m from return quoin, 600mm up from G/L, 800mm x 300mm area.
- ❖ Bulging/oversailing to the stonework, up to 6mm at worst causing fractured mortar joints up to 2mm in isolated places.
- ❖ Slight friable erosion to the remaining stonework in places with some loss of face in various locations.
- ❖ Fissure type fractured stonework up to 2mm at worst in isolated places.
- ❖ Discolouration, water staining to the stonework in various places also some lichen growth in various locations. P70 to P74.

S/W Wing wall {3.00m Long x 2.90m High}

- ❖ Previous pointing repairs have been carried out in the past in various locations.
- ❖ Pointing repairs have been carried out since the last detailed examination in various places.
- ❖ Repairs to the stonework have been carried out since the last detailed examination at the return quoin 550mm up from G/L, 300mm x 300mm area.
- ❖ Slight friable erosion to the remaining stonework in places with some loss of face in various locations.
- ❖ Fissure type fractured stonework up to 2mm at worst in isolated places.
- ❖ Discolouration, water staining to the stonework in various places also some lichen growth in various locations.
- ❖ Mature tree growth within the proximity in front of the wing wall. P75 to P79.

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WING WALLS {Cont}

S/E Wing wall {Cont}

- ❖ Previous pointing repairs have been carried out in the past in various locations.
- ❖ Pointing repairs have been carried out since the last detailed examination in various places.
- ❖ Slight to moderate friable erosion to the stonework in places with some loss of face in various locations.
- ❖ Fissure type fractured stonework up to 2mm at worst in isolated places.
- ❖ Discolouration, water staining to the stonework in various places also some lichen growth in various locations.
- ❖ Tree & vegetation growth in front of the wing wall cut back & killed off since the last detailed examination. P80 to P83.

PARAPETS & PILASTERS

North roadside elevation

{Measurements & defects taken from the west pilaster end}

- ❖ **2.80m - 7.60m** - Vehicle impact scrape marks to the stonework up to 6mm deep at worst in places.
- ❖ **23.30m** - Moderate friable erosion with loss of face to the stonework up to 65mm at worst, above exposed plinth, 400mm x 360mm area.
- ❖ **24.15m - 26.40m** - Vehicle impact damage with displacement to the stonework out of alignment northwards up to 70mm at worst to the 2nd course below the coping stones with loss of face up to 100mm at worst.
- ❖ N/E pilaster capstone displaced southwards up to 25mm at worst.
- ❖ Previous pointing repairs have been carried out in the past in various locations.
- ❖ Pointing repairs have been carried out since the last detailed examination in various places.
- ❖ Slight to moderate laminated erosion to the stonework in places with some loss of face in various locations.
- ❖ Fractured mortar joints open up to 1mm at worst in isolated places.

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PARAPETS & PILASTERS {Cont}

North roadside elevation {Cont}

- ❖ Fissure type fractured stonework up to 2mm at worst in isolated places.
- ❖ Discolouration, water staining to the stonework in various places also some lichen growth in various locations. P84 to P92.

North outer elevation

- ❖ Previous pointing repairs have been carried out in the past in various locations.
- ❖ Pointing repairs have been carried out since the last detailed examination in widespread places.
- ❖ Slight laminated erosion to the stonework in places with some loss of face in various locations.
- ❖ Fissure type fractured stonework up to 1mm at worst in isolated places.
- ❖ Discolouration, water staining to the stonework in various places also some lichen growth in various locations.
- ❖ Some smoke discolouration to the stonework to the former blast area. P93 to P97.

South roadside elevation

{Measurements & defects taken from the west pilaster end}

- ❖ **2.85m - 5.24m** - Possible vehicle impact damage to the coping stones, oversailing southwards up to 12mm at worst.
- ❖ **21.30m - 23.20m** - Vehicle impact scrape marks up to 15mm at worst to the coping stones.
- ❖ **22.90 - 26.70m** - Possible vehicle impact damage with displacement to the stonework out of alignment southwards up to 20mm at worst with evidence of previous pointing repairs to the area.
- ❖ Previous pointing repairs have been carried out in the past in various locations.
- ❖ Pointing repairs have been carried out since the last detailed examination in places.
- ❖ Fractured mortar joints open up to 2mm at worst in places.

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PARAPETS & PILASTERS {Cont}

South roadside elevation {Cont}

- ❖ Slight laminated erosion to the stonework in places with some loss of face in various locations.
- ❖ Slight to moderate erosion to the exposed plinth stonework in places with some loss of face in various locations.
- ❖ Fissure type fractured stonework up to 1mm at worst in isolated places.
- ❖ Discolouration, water staining to the stonework in various places also some lichen & moss growth in various locations. P98 to P108.

South outer elevation

- ❖ Previous pointing repairs have been carried out in the past in various locations.
- ❖ Pointing repairs have been carried out since the last detailed examination in widespread places.
- ❖ Slight laminated erosion to the stonework in places with some loss of face in various locations.
- ❖ Fissure type fractured stonework up to 1mm at worst in isolated places.
- ❖ Discolouration, water staining to the stonework in various places also some lichen growth in various locations.
- ❖ Some smoke discolouration to the stonework to the former blast area. P109 to P115.

SPRINGER COURSE {320mm}

- ❖ 1No: Vertical fracture extends full height, open up to 2mm at worst to the N/E return section.
- ❖ Moderate laminated erosion with loss of face to the top of the stonework, 1.20m in from the N/E quoin, 800mm x 80mm x 80mm area.
- ❖ Moderate erosion with loss of face to the underside of the stonework to the N/W quoin, 1.10m x 80mm x 50mm area.
- ❖ Slight erosion to the remaining stonework in places with some loss of face in various locations.
- ❖ Discolouration, water staining with calcite deposits to the stonework in widespread places. P116 to P124.

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STRING COURSE {210mm}

- ❖ Slight laminated erosion to the stonework in places with some loss of face in various locations.
- ❖ Pointing repairs have been carried out to the perpend joints since the last detailed examination in various places.
- ❖ Discolouration, water staining to the stonework in various places also some lichen growth in various locations.
- ❖ Light vegetation growth to the top of the string course in very isolated places.
- ❖ Some smoke discolouration to the stonework to the former blast areas. P125 to P126.

POINTING

- ❖ {See elemental parts }

WATERPROOFING

- ❖ N/E: Evidence of failure due to the condition of the arch ring soffit.

DRAINAGE

- ❖ No weep holes are visible, area under the structure has had ballast & 2No: 320mmØ plastic drainage pipes provided. P127.

FENCING/WALLING

- ❖ Overall condition of the approach road walling/fencing is fair, sections in disrepair, some pointing repairs have been carried out to the S/E approach road walling since the last detailed examination. *{Uncertain of demarcation}*
- ❖ Overall condition of the fencing underneath the structure is good *{Timber posts & rails & animal mesh provided to both elevations at straight span since the last detailed examination}* P128 to P133.

ROAD CONDITION

- ❖ Road surface slightly worn in places across the structure. P134.