# DIAMOND DETAILED INSPECTION

|  |
| --- |
| Location: Track: I.D. No.: |
| **Kilometrage: Date:** All measurements in mm  |
|  All speeds in km/h |
| V1 Crossing – Least kilometrage V2 Crossing – Greatest kilometrage |
| K1 Crossing – Left facing increasing kilometrage K2 Crossing – Right facing increasing kilometrage |
| Refer to ETE-03-01 Figure 4 for K crossing measurement naming convention (\*copy at end of form) |
| V1 Crossing | Measure | Response | Comments |
| Gauge(At crossing nose) | V1 Mainline |  | ≥1443 - speed 20/20 and monitor1442 to 1441 - speed 60/65 and monitor1440 to 1439 - monitor1430 to 1428 – monitor1427 to 1426 – speed 60/65 and monitor≤1425 – speed 20/20 and monitor |  |
| Check Rail Effectiveness | V1 Mainline |  | ≥1400 - speed 10/10 and pilot trains1399 to 1398 - speed 40/40 and monitor1397 to 1396 - speed 60/65 and monitor1388 to 1386 – monitor1385 to 1384 – speed 60/65 and monitor1383 to 1382 – speed 40/40 and monitor<1382 – speed 10/10 and pilot trains |  |
| Check Rail Flangeway Width | V1 Mainline |  | >49 - speed 60/65 and monitor49 to 48 – monitor39 to 38 – monitor<38 - speed 60/65 and monitor |  |
| Gauge(At crossing nose) | V1 Sec Line |  | ≥1443 - speed 20/20 and monitor1442 to 1441 - speed 60/65 and monitor1440 to 1439 - monitor1430 to 1428 – monitor1427 to 1426 – speed 60/65 and monitor≤1425 – speed 20/20 and monitor |  |
| Check Rail Effectiveness | V1 Sec Line |  | ≥1400 - speed 10/10 and pilot trains1399 to 1398 - speed 40/40 and monitor1397 to 1396 - speed 60/65 and monitor1388 to 1386 – monitor1385 to 1384 – speed 60/65 and monitor1383 to 1382 – speed 40/40 and monitor<1382 – speed 10/10 and pilot trains |  |
| Check Rail Flangeway Width | V1 Sec Line |  | >49 - speed 60/65 and monitor49 to 48 – monitor39 to 38 – monitor<38 - speed 60/65 and monitor |  |
| Wing Rail Vertical Wear | V1 |  | 5 to 10 – monitor>10 – speed 40/40 and monitor |  |
| Crossing Nose Broken Down or Worn width (Within transfer length) | V1 |  | 15 to 20 – monitor21 to 25 – speed 40/40 and monitor>25 – speed 10/10 and pilot trains |  |
| K1 Crossing | Measure | Response | Comments |
| Gauge | K1(a) |  | ≥1443 - speed 20/20 and monitor1442 to 1441 - speed 60/65 and monitor1440 to 1439 - monitor1430 to 1428 – monitor1427 to 1426 – speed 60/65 and monitor≤1425 – speed 20/20 and monitor |  |
| Check Rail Effectiveness | Qa |  | ≥1400 - speed 10/10 and pilot trains1399 to 1398 - speed 40/40 and monitor1397 to 1396 - speed 60/65 and monitor1388 to 1386 – monitor1385 to 1384 – speed 60/65 and monitor1383 to 1382 – speed 40/40 and monitor<1382 – speed 10/10 and pilot trains |  |
| Check Rail Flangeway Width | Ra |  | >49 - speed 60/65 and monitor49 to 48 – monitor39 to 38 – monitor<38 - speed 60/65 and monitor |  |
| Gauge | K1(b) |  | ≥1443 - speed 20/20 and monitor1442 to 1441 - speed 60/65 and monitor1440 to 1439 - monitor1430 to 1428 – monitor1427 to 1426 – speed 60/65 and monitor≤1425 – speed 20/20 and monitor |  |
| Check Rail Effectiveness | Qb |  | ≥1400 - speed 10/10 and pilot trains1399 to 1398 - speed 40/40 and monitor1397 to 1396 - speed 60/65 and monitor1388 to 1386 – monitor1385 to 1384 – speed 60/65 and monitor1383 to 1382 – speed 40/40 and monitor<1382 – speed 10/10 and pilot trains |  |
| Check Rail Flangeway Width | Rb |  | >49 - speed 60/65 and monitor49 to 48 – monitor39 to 38 – monitor<38 - speed 60/65 and monitor |  |
| Wing Rail Vertical Wear | a |  | 5 to 10 – monitor>10 – speed 40/40 and monitor |  |
| Wing Rail Vertical Wear | b |  | 5 to 10 – monitor>10 – speed 40/40 and monitor |  |
| Crossing Nose Broken Down or Worn width (Within transfer length) | a |  | 15 to 20 – monitor21 to 25 – speed 40/40 and monitor>25 – speed 10/10 and pilot trains |  |
| Crossing Nose Broken Down or Worn width (Within transfer length) | b |  | 15 to 20 – monitor21 to 25 – speed 40/40 and monitor>25 – speed 10/10 and pilot trains |  |
| **K2 Crossing** | **Measure** | **Response** | **Comments** |
| Gauge | K2(c) |  | ≥1443 - speed 20/20 and monitor1442 to 1441 - speed 60/65 and monitor1440 to 1439 - monitor1430 to 1428 – monitor1427 to 1426 – speed 60/65 and monitor≤1425 – speed 20/20 and monitor |  |
| Check Rail Effectiveness | Qc |  | ≥1400 - speed 10/10 and pilot trains1399 to 1398 - speed 40/40 and monitor1397 to 1396 - speed 60/65 and monitor1388 to 1386 – monitor1385 to 1384 – speed 60/65 and monitor1383 to 1382 – speed 40/40 and monitor<1382 – speed 10/10 and pilot trains |  |
| Check Rail Flangeway Width | Rc |  | >49 - speed 60/65 and monitor49 to 48 – monitor39 to 38 – monitor<38 - speed 60/65 and monitor |  |
| Gauge | K2(d) |  | ≥1443 - speed 20/20 and monitor1442 to 1441 - speed 60/65 and monitor1440 to 1439 - monitor1430 to 1428 – monitor1427 to 1426 – speed 60/65 and monitor≤1425 – speed 20/20 and monitor |  |
| Check Rail Effectiveness | Qd |  | ≥1400 - speed 10/10 and pilot trains1399 to 1398 - speed 40/40 and monitor1397 to 1396 - speed 60/65 and monitor1388 to 1386 – monitor1385 to 1384 – speed 60/65 and monitor1383 to 1382 – speed 40/40 and monitor<1382 – speed 10/10 and pilot trains |  |
| Check Rail Flangeway Width | Rd |  | >49 - speed 60/65 and monitor49 to 48 – monitor39 to 38 – monitor<38 - speed 60/65 and monitor |  |
| Wing Rail Vertical Wear | c |  | 5 to 10 – monitor>10 – speed 40/40 and monitor |  |
| Wing Rail Vertical Wear | d |  | 5 to 10 – monitor>10 – speed 40/40 and monitor |  |
| Crossing Nose Broken Down or Worn width (Within transfer length) | c |  | 15 to 20 – monitor21 to 25 – speed 40/40 and monitor>25 – speed 10/10 and pilot trains |  |
| Crossing Nose Broken Down or Worn width (Within transfer length) | d |  | 15 to 20 – monitor21 to 25 – speed 40/40 and monitor>25 – speed 10/10 and pilot trains |  |
| **V2 Crossing** | **Measure** | **Response** | **Comments** |
| Gauge(At crossing nose) | V2 Mainline |  | ≥1443 - speed 20/20 and monitor1442 to 1441 - speed 60/65 and monitor1440 to 1439 - monitor1430 to 1428 – monitor1427 to 1426 – speed 60/65 and monitor≤1425 – speed 20/20 and monitor |  |
| Check Rail Effectiveness | V2 Mainline |  | ≥1400 - speed 10/10 and pilot trains1399 to 1398 - speed 40/40 and monitor1397 to 1396 - speed 60/65 and monitor1388 to 1386 – monitor1385 to 1384 – speed 60/65 and monitor1383 to 1382 – speed 40/40 and monitor<1382 – speed 10/10 and pilot trains |  |
| Check Rail Flangeway Width | V2 Mainline |  | >49 - speed 60/65 and monitor49 to 48 – monitor39 to 38 – monitor<38 - speed 60/65 and monitor |  |
| Gauge(At crossing nose) | V2 Sec Line |  | ≥1443 - speed 20/20 and monitor1442 to 1441 - speed 60/65 and monitor1440 to 1439 - monitor1430 to 1428 – monitor1427 to 1426 – speed 60/65 and monitor≤1425 – speed 20/20 and monitor |  |
| Check Rail Effectiveness | V2 Sec Line |  | ≥1400 - speed 10/10 and pilot trains1399 to 1398 - speed 40/40 and monitor1397 to 1396 - speed 60/65 and monitor1388 to 1386 – monitor1385 to 1384 – speed 60/65 and monitor1383 to 1382 – speed 40/40 and monitor<1382 – speed 10/10 and pilot trains |  |
| Check Rail Flangeway Width | V2 Sec Line |  | >49 - speed 60/65 and monitor49 to 48 – monitor39 to 38 – monitor<38 - speed 60/65 and monitor |  |
| Wing Rail Vertical Wear | V2 |  | 5 to 10 – monitor>10 – speed 40/40 and monitor15 to 20 – monitor21 to 25 – speed 40/40 and monitor>25 – speed 10/10 and pilot trains |  |
| Crossing Nose Broken Down or Worn width (Within transfer length) | V2 |  | 15 to 20 – monitor21 to 25 – speed 40/40 and monitor>25 – speed 10/10 and pilot trains |  |
| V & K Crossings | Measure | Response | Comments |
| Ineffective Bearers/Fasteners(In critical area) |  | 1 only – monitor2 consecutive – speed 40/40 and monitor>2 consecutive - speed 10/10 and pilot trains |  |
| Cracks in Cast Crossings |  | MonitorFully (not affecting running surface) – speed 60/65 and monitorFully (affecting running surface) – speed 10/10 and pilot trains |  |
| Spacer Blocks |  | Broken/cracked - monitor |  |
| Check Rail Bolts(Each Check Rail) |  | Loose – monitorMissing/Ineffective:<2 – monitor except for 60/65 speed 25 tonne, 40/40 speed 30 tonne axle load traffic areas3 – speed 60/65 except for 40/40 speed in 25/30 tonne axle load areas.>3 – speed 20/20 and monitor |  |
| Crossing Bolts |  | Loose/Missing/Ineffective – record as defect and prioritise |  |
| General | Ok/Not Ok | Comments |

|  |
| --- |
| Response assessment by competent person |
| Drainage |  |  |
| Ballast |  |  |
| Alignment |  |  |
| Fastenings |  |  |
| Bearers |  |  |
| Check rails |  |  |
| K crossing condition |  |  |
| V crossing condition |  |  |
| Track Geometry |  |  |

**Additional Inspection Notes:**

|  |
| --- |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |

Notes:

\* “Monitor” means at an appropriate increased frequency compared to the current inspection

\* Responses are default actions pending appropriate repair / renewal action

\* If the cause of a defect is known, and it is known that it will not deteriorate into an unsafe condition an alternate response to that shown is permitted with appropriate documentation

**Name of Inspector: Signature:**

*\*Copy of ETE-03-01, Figure 4- Diamond Crossing Nose and Dimension Identification:*

****