



# *CDM NOTE 005*

*When is “railway maintenance”  
construction works?*

*Internal Guidance  
Version 1 / June 2016*

# CDM Note 005: Maintenance & CDM 2015

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## Introduction

The CDM Regulations applies to all construction works, and have done so since the original 1994 version. However it has not always been clear what works these cover. HSE guidance and Approved Codes of Practice have been issued in the past to help interpret the legislation, but have never been definitive.

This document provides guidance to Network Rail staff and our stakeholders, on our corporate interpretation of the legislation, and of the applicability of CDM 2015 to maintenance tasks in particular. The aim is to end the conversation of applicability, and refocus our efforts onto our means of control to make sure everyone home safe every day.

This note does not provide details of the wider aspects of the CDM Regulations 2015, as these are covered by construction industry guidance and other internal Network Rail CDM Notes;

- [CDM Regulations 2015](#),
- [CITB Construction Industry Guidance](#)
- [HSE L153 Guidance on the Construction \(Design and Management\) Regulations 2015](#).

This note and other Network Rail internal CDM Notes are available from:

- [Safety Central – CDM 2015](#)
- [CDM Note 1 – Client Arrangements](#)
- [CDM Note 2 – Principal Designer appointment](#)
- [CDM Note 3 – CSM REA & CDM](#)
- [CDM Note 4 – Pre-construction information](#)

The details of how Network Rail discharges the requirements of the CDM Regulations 2015 for maintenance activities are defined in the Management Procedures for each respective Route.

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## 1.0 Brief background and history

Network Rail in the lead-up to the introduction of the CDM Regulations 2007, reviewed the application to our asset and infrastructure maintenance tasks. In the interpretation section of the regulations, it was clear that the regulations applied to maintenance. The scope of the application was limited through the L144 Approved Code of Practice (ACoP); a quasi-legal document. The ACoP effectively modified the definition of “construction works” in the regulations to exclude general maintenance of fixed plant:

- 13 Construction work is defined in the Regulations. The following are not construction work as defined:
- (a) putting up and taking down marquees and similar tents designed to be re-erected at various locations;
  - (b) general maintenance of fixed plant, except when this is done as part of other construction work, or it involves substantial dismantling or alteration of fixed plant which is large enough to be a structure in its own right, for example structural alteration of a large silo; complex chemical plant; power station generator or large boiler;

Figure 1

The view taken at the time was that the Client and CDM co-ordinator duties in the regulations only applied to “construction projects”, and planned and reactive maintenance was not considered to meet the definition of a project. Therefore Network Rail only applied Part 4 of the CDM Regulations 2007 to the construction works undertaken as maintenance activities. Part 4 contained the Duties relating to health and safety on construction sites, as although the maintenance tasks were not considered as part of a project, a sub-set were considered as meeting the interpretation of construction works.

With the removal by the HSE of L144 ACoP, the modification of the interpretation of construction works has been removed. The scope of construction works has now widened to include the maintenance of fixed plant.

With the benefit of 8 years’ experience of application of the CDM Regulations 2007, the view now taken is that planned and reactive maintenance do meet the definition of a project. Our legal interpretation is provided in Section 3 of this document.

HSE’s Construction eBulletin May 2015 introduces a new criterion in determining if a task is construction works; “If the task in hand looks like construction work, requires construction skills and uses construction materials, it is construction work.” The implication is that Network Rail now considers the whole of the regulations as applicable to the maintenance tasks which meet the definition of construction works.

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## 2.0 The regulations

The scope of application of the duties within the CDM Regulations is determined in the definition of “construction works” and “project”. Please consult the regulations as the source, but extracts are provided below for information.

The CDM Regulations 2015 defines “construction works” in regulation 2 interpretation; an extract of this definition is provided in Figure 2 below.

“construction work” means the carrying out of any building, civil engineering or engineering construction work and includes—

- (a) the construction, alteration, conversion, fitting out, commissioning, renovation, repair, upkeep, redecoration or other maintenance (including cleaning which involves the use of water or an abrasive at high pressure, or the use of corrosive or toxic substances), de-commissioning, demolition or dismantling of a structure;
- (b) the preparation for an intended structure, including site clearance, exploration, investigation (but not site survey) and excavation (but not pre-construction archaeological investigations), and the clearance or preparation of the site or structure for use or occupation at its conclusion;
- (c) the assembly on site of prefabricated elements to form a structure or the disassembly on site of the prefabricated elements which, immediately before such disassembly, formed a structure;
- (d) the removal of a structure, or of any product or waste resulting from demolition or dismantling of a structure, or from disassembly of prefabricated elements which immediately before such disassembly formed such a structure;
- (e) the installation, commissioning, maintenance, repair or removal of mechanical, electrical, gas, compressed air, hydraulic, telecommunications, computer or similar services which are normally fixed within or to a structure,

but does not include the exploration for, or extraction of, mineral resources, or preparatory activities carried out at a place where such exploration or extraction is carried out;

Figure 2

The CDM Regulations 2015 defines “project” in regulation 2 interpretation; an extract of this definition is provided in Figure 3 below.

“project” means a project which includes or is intended to include construction work and includes all planning, design, management or other work involved in a project until the end of the construction phase;

Figure 3

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### 3.0 Network Rail legal services

As part of the working group that updated our standard (NR/L2/OHS/0047) to take account of CDM 2015, Network Rail legal services reviewed the regulations and concluded the following.

Maintenance work is clearly within the scope of “construction work”, as upkeep, renovation and even jet-washing are covered. However, this is only in relation to a “structure”, although the definition given for “structure” is very comprehensive. As well as listing every kind of building and rail asset, it also encompasses the catch-all “fixed plant”. The usual definition of “fixed plant” includes lifts, escalators and heating/cooling assets.

The work must be within a “project”. This does not mean a nuclear power plant or a hospital (the law firm interpretation) and can be very small. The definition under the Regulations is “means a project which includes or is intended to include construction work and includes all planning, design, management or other work involved in a project until the end of the construction phase.” There is no mention of size or of building something new.

However, not ALL maintenance work is likely to be covered under CDM 2015. Tests and Inspections are not included in the definitions [unless they form part of the construction or commissioning phase]. Off track maintenance such as de-vegetation will not be captured [unless it is in relation to a structure such as earthworks or site clearance, or where specialist equipment or plant is being used]. Also, the need for work to be carried out in respect of a “structure” will mean anything not defined as Construction works will be excluded (for example the modification of vehicles).

On the basis of the above a workshop was held in 2015 between STE and Maintenance and Operations Services - Network Operations, to review task by task (defined by the MNT codes in use at the time) if the CDM Regulations were applicable. The outcome of the review is provided in section 4 of this document.

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### 4.0 Review of standard maintenance tasks

STE and Network Operations, Operations Services reviewed the standard maintenance task list contained in Maintenance FRM702 Version 12. The review determined which tasks met the definition of construction works as defined in CDM Regulations 2015. Each task is briefly described below, including a statement if it meets the definition of construction works, and what level of design is envisaged, and by which part of Network Rail. This information is provided to act as a guide for each Route when writing their CDM Management Procedures, and to help decision making for tasks that are not listed in this document.

The work task descriptions have been grouped into disciplines (per section manager job titles e.g. Off track, Track, Signalling). The tasks are identified by their standard job number.

### 4.1 Off track

#### 4.1.1 MNT070: Inspections (Fencing, vegetation, drainage):

For any inspection where no access (e.g. working from height) equipment is required and where the inspection can take place by walking over the asset and documenting findings without being intrusive (entering an area).

#### *Construction:*

This element of work is **NOT** considered to be construction as it does not require any access equipment, temporary works or intrusive entry to an area.

#### *Design requirements:*

Visual inspections are not expected to require any form of design.

#### *Designer:*

NOT APPLICABLE

#### 4.1.2 MNT071: Inspections (level crossings and Access Points)

For any inspection of a level crossing area that **does not** require the decked area to be lifted or for any inspection of an access point that **does not** require any access equipment to undertake intrusive inspections.

#### *Construction:*

This element of work is **NOT** considered to be construction as it does not require any access equipment, temporary works or intrusive entry to an area.

#### *Design Requirements:*

Visual inspections are not expected to require any form of design.

#### *Designer:*

NOT APPLICABLE

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### 4.1.3 MNT072: Fences and Boundary Walls

Undertake remedial repairs of fences and boundary walls. This includes reactive repairs, pointing, and general maintenance of the asset. This task is not expected to change the overall asset.

#### **Construction:**

This element of work is considered to be construction due to the methodologies and equipment used for completing the task.

#### **Design Requirements:**

This task will require minimal design as it is deemed to be a like for like replacement or refinishing of an asset. No overall asset change is expected.

#### **Designer:**

The 'expert' undertaking the task will make all necessary design decisions and document them for inclusion in any asset register.

### 4.1.4 MNT073: Drainage

This task can be used to account for one of the following items:

1. Structural replacement of sections of a drainage system e.g. pipes sections, catch pit rings or the re-digging of a drainage ditch.
2. Undertaking routine service activities to reinstate the asset to a serviceable condition e.g. clearing debris from a ditch or pipe system to allow for the system to operate.

#### **Construction:**

This activity is considered to be construction due to the requirements of being intrusive to an asset in order to undertake the required tasks.

#### **Design Requirements:**

This task is expected to require designs in order to restore the functionality of the asset to its maintainable state.

#### **Designer:**

Where there is a requirement for design, the section manager will request support from the Senior Asset Engineer - drainage. If this is not possible then the issue shall be escalated to the RAM – Civils/Geotechnics.

### 4.1.5 MNT075: Level Crossings Management (Off Track)

This task can be used to account for the following activities:

- 1) Surface repair to the asset (roadway, bridle way, footpath). The works can include maintenance activities to the signage, surface markings, surface condition, anti-

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trespass guards, styles and gates.

2) Enabling works to allow track works to take place (e.g. lifting of the level crossing deck, supporting road closures, etc.).

### **Construction:**

This activity is considered to be construction due to the methodologies and materials expected to be used. Also, the requirement of being intrusive to an asset is considered construction.

### **Design Requirements:**

This task is expected to require designs in order to restore the functionality of the asset to its maintainable state, the interface with the highways authority or to allow track works to take place.

### **Designer:**

- 1) Where a design is to be prepared for the works, the section manager (off track) will specify the materials required for undertaking asset replacements (on a like for like basis unless otherwise specified through another programme) of styles, gates, anti-trespass guards, etc.
- 2) Where the design is required for allowing track works to take place, the section manager will interface with the Track Maintenance Engineer as to the requirements and extents of the task.
- 3) For requirements of interface with the highway, National Operations Delivery Service (NODS) shall take the lead to liaise with the local authority/highways agency.

#### **4.1.6 MNT079: Spoil and Debris Clearance outside station area**

This task can be used to account for clearing items of discard or land movement e.g. fly tipping at an access point or rock fall from a railway line. All works will be outside of the station area.

### **Construction:**

This item is **NOT** considered to be construction as it is the recovery of unwanted debris or litter from the infrastructure outside of station areas, unless specialist plant is used when it **SHOULD** be considered construction.

### **Design Requirements:**

This task is not expected to require any form of design as it is for the removal of unwanted debris of litter from infrastructure outside of station areas.

### **Designer:**

Not applicable.

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### 4.1.7 MNT081: Vegetation Removal of Boundary Trees

This task is used for the removal of boundary foliage by manual or mechanical (chainsaw) means.

#### **Construction:**

This item is **NOT** considered to be construction unless where there is a requirement to excavate an item of boundary foliage (e.g. root ball of a tree) when it **SHOULD** be considered construction.

#### **Design Requirements:**

This task will be expected to require design if there is the likelihood of working at heights, use of mechanised equipment or excavation. The design will also encompass the scope/specification of the task to be undertaken.

#### **Designer:**

Where there is a requirement for a design, the section manager will coordinate with suitably competent persons in order to produce such designs e.g. lift planner where mechanised equipment such as RRV's are required, RAM Civils for excavations and bank stability assessments, etc.

### 4.1.8 MNT082: Vegetation Management by Train

#### **Description:**

This task is for the management of railway vegetation by train. This item is planned by NSC (National Supply Chain).

#### **Construction:**

This item is **NOT** considered to be construction as it is undertaken by running a planned service through an area of the railway network that is spraying a treatment to control the growth and spread of vegetation.

#### **Design Requirements:**

This task is expected to not require a design as it is the running of a train on a pre-planned path through the network.

#### **Designer:**

NOT APPLICABLE

### 4.1.9 MNT170: Vegetation Management – Manual

This task is where the lineside and railway vegetation is managed by manual methods. These methods are described as the removal using hand tools (axe, scythe, etc). Requirements for vegetation management can include to improve signal sighting and to reduce trip hazards.

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### *Construction:*

This item is **NOT** considered to be a construction activity due to it being the management of vegetation.

### *Design Requirements:*

This task is expected to not require a design for the management of vegetation. A specification will be used to determine the location(s) at which vegetation management is required.

### *Designer:*

Where vegetation management is needed to restore signal sighting, the section manager (or competent deputy) shall survey the location as to determine the extent of the required works.

#### **4.1.9 MNT171: Vegetation Management – Mechanised**

This task is where the lineside vegetation is managed using mechanised methods (e.g. flail, bush cutter, etc.).

### *Design Requirements:*

This task is expected to require design outputs to be prepared ahead of the works being undertaken. These include the preparation of specifications (work orders) and lift plans (where RRV's are being used to lift and operate attachments). Additional design outputs may include (but not be limited to) the assessment of an embankment/cutting for instability following the removal of a tree(s).

### *Designer:*

In the first instance, the designer will be the person specifying the works that are required to be undertaken and the extent at which they are going to be done.

For the production of a lift plan, a competent lift planner shall be appointed.

To undertake risk assessments or production of designs for embankment/cutting instability, the RAM Civils – Geo technics shall be appointed.

#### **4.1.10 MNT172: Vegetation Management – Spray**

This task is where vegetation is managed by spraying a pesticide. This can be on the operational infrastructure and includes areas at stations, access points and depots.

### *Construction:*

This activity is **NOT** considered to be construction as it is the management of vegetation without disturbing the ground.

### *Design Requirements:*

It is not expected that this activity will require a design. A specification will be required so that the area requiring vegetation management by spraying is determined. This will be identified by foot patrols.

### *Designer:*

NOT APPLICABLE

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### 4.2 Track

#### 4.2.1 MNT004: Plain Line Tamping

This task is to (a) reinstate the track geometry to its original specification or (b) improve the geometry and ride quality to a new design by using a machine to compact the ballast under the sleeper (stools) to support the track.

##### *Construction:*

This task is considered to be construction as the methodologies require that the ballast surface is broken and the track structure is repositioned using mechanical means.

##### *Design requirements:*

This task does require design. This requirement is to allow for the *Tamper* to reposition the track (horizontally and vertically). The reposition can be to original geometry (existing design) or a manual design. Where there is no existing design, this method of working will manage the tracks position.

##### *Designer:*

The designer of these works consists of the following (including their descriptions):

1. *Hallade* teams – undertake survey of track curvature and document the current track position in relation to the speed of the train.
2. Section manager (track) – through a *Trace* (print out from a track recording coach that shows track quality) identifies areas (poor eighths) that require improvement.
3. Track Quality Supervisor (TQS) or Track Geometry Supervisor (TGS) – Person responsible for overseeing the correction of track geometry by mechanised means (*Tamping*).

#### 4.2.2 MNT005: Stoneblowing – Plain Line

This task is to reinstate the track geometry to its original specification to improve the quality of the track by ‘blowing’ stones under the sleepers to ‘pack’ the alignment to the required line and level.

##### *Construction:*

This task is considered to be construction as the methodologies require that the ballast surface is broken and additional material is added to support the track structure. The track is also repositioned (vertically and horizontally) by using this process.

##### *Design Requirements:*

This task does require design. This requirement is to allow for the *Tamper* to reposition the track (horizontally and vertically). The reposition can be to original geometry (existing design) or a manual design. Where there is no existing design, this method of working will manage the tracks position.

##### *Designer:*

The designer of these works consists of the following (including their descriptions):

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1. *Hallade* teams – undertake survey of track curvature and document the current track position in relation to the speed of the train.
2. Section manager (track) – through a *Trace* (print out from a track recording coach that shows track quality) identifies areas (poor eighths) that require improvement.
3. Track Quality Supervisor (TQS) or Track Geometry Supervisor (TGS) – Person responsible for overseeing the correction of track geometry by mechanised means (*Tamping*).

### 4.2.3 MNT006: Manual Wet Bed Removal

This task is to remedy a 'wet bed' (deteriorating and contaminated ballast in the crib where water has held and caused the fines to coagulate) by removal of unwanted material around and below the sleeper. Included in this task is the lifting of track, moving of sleepers to allow sufficient access to the area requiring treatment and the consolidating of new material to bring the track back to an acceptable standard.

#### *Construction:*

This task is considered to be construction due to the equipment and methodologies used in the removal of the contaminated material and reinstatement of track quality.

#### *Design Requirements:*

This task will require design. The extent of the design, and its complexity, is minimal. The design will incorporate the specification of how much ballast is removed to remedy the wet bed and the disposal of unwanted/contaminated material. For reinstating the track to its original condition (top and line levels), the TME or Section Manager will provide existing information on the curvature of the track.

#### *Designer:*

The designer for these works will consist of the following (including their descriptions)

1. Section Manager (track) – a) through a *Trace* (print out from a track recording coach that shows track quality) identifies areas (poor eighths) that require improvement. B) through supervisor track inspections the areas of wet beds will be identified.
2. Track Maintenance Engineer (TME) – provide specification on the extent of the wet beds to be treated.
3. Health, Safety and Environment Advisor (HSEA) – provide guidance on the disposal of unwanted material.

### 4.2.3 MNT007: Switch and Crossing (S&C) Tamping

This task is to (a) reinstate the track geometry to its original specification or (b) improve the geometry and ride quality to a new design by using a machine to compact the ballast under the sleeper (stools) to support the track.

#### *Construction:*

This task is considered to be construction as the methodologies require that the ballast surface is broken and the track structure is repositioned using mechanical means.

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### *Design Requirements:*

This task does not require design. This requirement is to allow for the *Tamper* to reposition the track (horizontally and vertically). The reposition can be to original geometry (existing design) or a manual design (within standard). Where there is no existing design, this method of working will manage the tracks position.

### *Designer:*

The designer of these works consists of the following (including their descriptions):

1. *Hallade* teams – undertake survey of track curvature and document the current track position in relation to the speed of the train.
2. Section manager (track) – through a *Trace* (print out from a track recording coach that shows track quality) identifies areas (poor eighths) that require improvement.
3. Track Quality Supervisor (TQS) or Track Geometry Supervisor (TGS) – Person responsible for overseeing the correction of track geometry by mechanised means (*Tamping*). TQS/TGS also responsible for identifying onsite hazards e.g. signalling and telecommunication cables.
4. On Track Plant (OTP) Engineer – Takes the decision on the level of resource that is going to be made available to a delivery unit to undertake scheduled correction of track geometry but will also make arrangements to have resources available at short notice if there is a reactive correction required.
5. Track Maintenance Engineer (TME) – Produce geometry designs for rectifying faults throughout the S&C unit, turnouts, through roads and plain line either side.

#### **4.2.4 MNT009: Mechanical Spot Re-sleepering**

This task is to replace damaged or ineffective sleepers by using a combination of manual and mechanical methods. This task will use either manual methods of material removal from shoulders and beds or a road rail vehicle (RRV) to remove material from the beds and shoulders. An RRV will be used to remove the sleeper. The track system will be lifted and supported by 'jacking' it up.

### *Construction:*

This task is considered to be construction as the methodologies require that the track system is lifted and supported, the surface is broken, and components are removed and replaced.

### *Design Requirements:*

This task does not require design. The requirement is provide a specification as to the location and extent at which the sleepers are replaced and what the sleepers are replaced with (e.g. ineffective soft wood sleeper replaced with softwood, hardwood, concrete or steel). Additionally the requirements for taking existing asset condition data (twist survey, top and line levels) to enable the track system to be reinstated to its existing condition or to be improved according to standards.

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### *Designer:*

The designer for these works consists of the following (including descriptions):

- 1) Section Manager (track) or Supervisor – Undertakes the track patrol to identify which sleepers are to be replaced and produces scope.
- 2) Section Manager (track) and Track Maintenance Engineer (TME) – Confirms specification of replacement sleepers and fastenings.
- 3) Permanent Way team – Undertake the existing asset survey and records the results, undertakes the installation, re-gauging and re-alignment of the track.
- 4) Lift planner – specifies the limitations and movements of the RRV.

### **4.2.5 MNT010: Replacement of S&C Bearers**

This task is to replace damaged or ineffective switch and crossing bearers by using a combination of manual and mechanical methods. This task will use either manual methods of material removal from shoulders and beds or a road rail vehicle (RRV) to remove material from the beds and shoulders. An RRV will be used to remove the sleeper. The track system will be lifted and supported by 'jacking' it up.

### *Construction:*

This task is considered to be construction as the methodologies require that the track system is lifted and supported, the surface is broken, and components are removed and replaced.

### *Design Requirements:*

This task does require design. The requirement is provide a specification as to the location and extent at which the sleepers are replaced and what the sleepers are replaced with (e.g. ineffective soft wood sleeper replaced with softwood, hardwood, concrete or steel). Additionally the requirements for taking existing asset condition data (twist survey, top and line levels) to enable the track system to be reinstated to its existing condition or to be improved according to standards.

### *Designer:*

The designer for these works consists of the following (including descriptions):

1. Section Manager (track) or Supervisor – Undertakes the track patrol to identify which sleepers are to be replaced and produces scope.
2. Section Manager (track) and Track Maintenance Engineer (TME) – Confirms specification of replacement sleepers and fastenings.
3. Permanent Way team – Undertake the existing asset survey and records the results, undertakes the installation, re-gauging and re-alignment of the track.
4. Lift planner – specifies the limitations and movements of the RRV.

### **4.2.6 MNT011: S&C Arc Weld Repair**

This task is to undertake electric arc weld repairs in the vicinity of switches and crossing. The process includes the ultrasonic or visual identification of a defect, the corrective actions and the reinstatement or use.

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### *Construction:*

This task is considered to be construction as the methodologies and equipment used are to maintain a structure.

### *Design Requirements:*

This task will require a design specification as to include the extent of the area requiring treatment.

### *Designer:*

The ultrasonic testing team will log the fault that has been detected and the extent at which it is affecting the asset. This specification will be used to confirm the scope of works and the materials used (dependant on type of crossing; cast mono-block or cast manganese). The welding team will record data following the work that they undertake.

### **4.2.7 MNT012: Mechanical Wet Bed Removal**

This task is to remedy a 'wet bed' (deteriorating and contaminated ballast in the beds where water has held and caused the fines to stick together) by removal of unwanted material around and below the sleeper by mechanical means using an RRV or JCB. Included in this task is the lifting of track, moving of sleepers to allow sufficient access to the area requiring treatment and the consolidating of new material to bring the track back to an acceptable standard.

### *Construction:*

This task is considered to be construction due to the equipment and methodologies used in the removal of the contaminated material and reinstatement of track quality.

### *Design Requirements:*

This task will require design. The extent of the design, and its complexity, is minimal. The design will incorporate the specification of how much ballast is required to remedy the wet bed and the disposal of unwanted/contaminated material. For reinstating the track to its original condition (top and line levels), the TME or Section Manager shall provide existing information on the curvature of the track.

The specification of the movements of an RRV/JCB will be required to undertake this task.

### *Designer:*

The designer for these works will consist of the following (including their descriptions)

1. Section Manager (track) –
  - a. through a *Trace* (print out from a track recording coach that shows track quality) identifies areas (poor eighths) that require improvement.
  - b. through supervisor track inspections the areas of wet beds will be identified.
2. Track Maintenance Engineer (TME) – provide specification on the extent of the wet beds to be treated.
3. Health, Safety and Environment Advisor (HSEA) – provide guidance on the disposal of unwanted material.

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4. Lift planner – specifies the limitations and movements of the RRV.

### 4.2.8 MNT013: Level 1 Track Patrolling

This task is to undertake a basic visual inspection of the track assets by 'walking over' and record and defects.

#### *Construction:*

This task is **NOT** considered to be construction.

#### *Design Requirements:*

This task is not expected to require any design. A specification for minor activities (bolt tighten, replacing a missing clip) is covered by the appropriate company standard.

#### *Designer:*

NOT APPLICABLE

### 4.2.9 MNT014: Mechanised Patrolling Track Inspection

This task is to undertake a basic visual inspection of the track assets and record and defects by mechanised transport (e.g. rail mounted land rover or gaiter vehicle).

#### *Construction:*

This task is **NOT** considered to be construction.

#### *Design Requirements:*

This task is not expected to require any design.

#### *Designer:*

NOT APPLICABLE

### 4.2.10 MNT015: Weld Repair of Defective Rail

This task is to remove defects in the rails by cutting out the effected section, replacing the rails, re-joining of the rails by matching the rail profiles and aluminothermic welding of the ends. The effected rail can vary in length dependant on the local constraints (e.g. distance from another weld in the rail, rail condition, curvature, etc.). Rail replacements can be completed by manual handling or by using mechanised methods (e.g. RRV or ironmen). The type of track installation should also be noted as to it being stressed, not stressed or in the stress transition area.

#### *Construction:*

This task is considered to be construction due to the methodologies involved.

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### *Design Requirements:*

This task will require a specification and a design to be produced.

The specification will be produced as a result of the rail defect being identified. The specification will identify the existing rail section, the length of the affected rail, the length of the replacement rail, locations of existing welds and locations at which the new welds will be. The design that will be required will be one of a site diagram that shows the locations (in relation to track mileage) at which the rail will be cut into, the locations of the welds to be installed and any local hazards. On the site diagram it should also be identified the location(s) at which the rail will be 'pulled' from to reinstate the stress (by the use of hydraulic stressing equipment).

### *Designer:*

The ultrasonic testing team will log the fault that has been detected and the extent at which it is affecting the asset. This specification will be used to confirm the scope of works and the materials used (dependant on type of rail section to be replaced and what is available to replace it with, the specification of pads/nylons, etc.). The welding team will record data following the work that they undertake. The materials will be confirmed in the scope by the section manager (track) or track maintenance engineer.

During the undertaking of the works, the person in charge of stressing (competent to the required level) will make the necessary arrangements to reinstate the track stress (level 1) to what it was at the start of the process or will put the rail stress back to the required standard (level 2) if the length being installed is sufficient to allow for this. All information will be recorded on the necessary track engineering forms.

### **4.2 11 MNT016: Installation of Pre-fabricated Insulated Rail/Block Joints**

This task is to install or replace an insulated rail/block (IRJ or IBJ) joint in track by either a) welding or b) bolting of the rail ends.

### *Construction:*

This task is considered to be construction due to the methodologies and activities required to complete.

### *Design Requirements:*

This task will require that the materials required be specified and ordered accordingly as the IRJ is made off site. Information to be captured would be the rail section (CEN56, CEN60 or 95lb Bullhead).

### *Designer:*

The person specifying the requirements of the materials will undertake an element of the design. This will usually be the section manager (track). In support of this, there will be the requirement to understand the current asset condition and specify within the scope if it is required to be stressed/re-stressed and the type of rail end joining (weld or bolt).

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### 4.2.12 MNT017: Mechanical Re-profiling of Ballast

This task is where the ballast profile (shoulder and beds) is re-profiled through mechanised means. This can include the use of an RRV or by train mounted profiling (specific rail fleet).

#### *Construction:*

This task is considered to be construction due to the methodologies and equipment that are required to undertake the re-profiling of ballast and the 'breaking' of the ballast surface in order to move excess material.

#### *Design Requirements:*

This task does require a specification which will be in accordance with company standards. A specification will be required in order to treat and remedy the affected area.

#### *Designer:*

The designer of these works will be section manager (track) who will specify the area and extents of re-profiling. The person undertaking the works on site will record the ballast disturbances in accordance with company standards.

### 4.2.12 MNT020: Manual Re-profiling of Ballast

This task is where the ballast profile (shoulder and beds) is re-profiled through manual means. This will be undertaken by manually moving excess ballast to areas where there is a need to improve the profile.

#### *Construction:*

This task is considered to be construction due to the methodologies and equipment that are required to undertake the re-profiling of ballast and the 'breaking' of the ballast surface in order to move excess material.

#### *Design Requirements:*

This task does require a specification which will be in accordance with company standards. A specification will be required in order to treat and remedy the affected area.

#### *Designer:*

The designer of these works will be section manager (track) who will specify the area and extents of re-profiling. The person undertaking the works on site will record the ballast disturbances in accordance with company standards.

### 4.2.13 MNT022: Permanent Way – Other – Various

#### *Description:*

All other permanent way activities that are undertaken by direct staff and have not been mapped to an MNT category.

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## ***Construction:***

This collection of activities will require a task specific assessment to determine if the task is construction works or not, due to the large verity of tasks assigned to this MNT code.

Examples of tasks that are likely to be construction works due to the methodology and equipment involved, include the replacement of long timbres, maintenance of signal standing area, open trial hole and box in, change chair / baseplate.

Examples of tasks that are unlikely to be construction works include; S&S cold weather monitoring, track patrol winter weather and OTM manual survey.

## ***Design Requirements:***

The design required will be dependent on the specific task.

## ***Designer:***

Who produces the design will be dependent on the on the specific task.

### **4.2.14 MNT025: Replenishment of Ballast – Manual**

This task is for replenishing areas of the track where it is identified that the ballast level is low.

## ***Construction:***

This task is considered to be construction due to the methodologies and equipment that are required to undertake the re-profiling of ballast and the 'breaking' of the ballast surface in order to move excess material.

## ***Design Requirements:***

This task does require a specification which will be in accordance with company standards. A specification will be required in order to treat and remedy the affected area.

## ***Designer:***

The designer of these works will be section manager (track) who will specify the area and extents of replenishment and re-profiling. The person undertaking the works on site will record the ballast disturbances in accordance with company standards.

### **4.2.15 MNT026: Replenishment of Ballast – Train**

This task is for replenishing areas of the track where it is identified that the ballast level is low by use of ballast trains.

## ***Construction:***

This task is considered to be construction due to the methodologies and equipment that are required to undertake the re-profiling of ballast and the 'breaking' of the ballast surface in order to move excess material.

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### *Design Requirements:*

This task does not require a specification and a plan to facilitate the movement of the ballast train which will be in accordance with company standards. A specification will be required in order to treat and remedy the affected area.

### *Designer:*

The designer of these works will be section manager (track) who will specify the area and extents of replenishment and re-profiling. The person undertaking the works on site will record the ballast disturbances in accordance with company standards.

### **4.2.16 MNT027: Maintenance of Rail Lubricators**

This task is for the maintenance of rail lubricators and includes tasks as replenishment of lubrication, cleaning and resetting.

### *Construction:*

This task is **NOT** considered to be construction in undertaking general maintenance. However, there are tasks as part of lubricator maintenance (such as reinstallation following a re-rail or rail replacement) that would be considered to be a construction activity. Where the lubricator is materially changed (consumables are replenished by 'opening' the item) then this is considered to be construction.

### *Design Requirements:*

This task will not require a design or specification as installed lubricators are in a fixed location and not expected to move. For the reinstallation of a lubricator, the Rail Maintenance Engineer (RME) or Track Maintenance Engineer (TME) shall provide a specification as to where it shall be installed.

### *Designer:*

The designer of these works will be the RME or TME who shall specify the location at which the lubricator shall be installed (if being installed after a re-rail or rail replacement). Where the maintenance is on a fixed lubricator, the specification shall be as per the manufacturers guidelines and company standards.

### **4.2.17 MNT029: Replacement of Pads and Insulators**

This task is where the pads and nylons (associated with the track system) are replaced due to a) being life expired or b) as part of a re-rail/rail change.

### *Construction:*

This task is considered to be a construction activity due to the methodologies and equipment involved in undertaking the task in both life expired replacement and as part of a re-rail.

### *Design Requirements:*

This task will require a specification that will include the material specification, quantity and extent of area to be affected by the task.

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### *Designer:*

The designer for these works will be the section manager (track) or the Track Maintenance Engineer when specifying the extent at which a rail is being replaced.

The designer for these works when replacing life expired components.

### **4.2.18 MNT030: Maintenance of Longitudinal Timber**

This task is for the maintenance of a longitudinal timber and includes works such as inspection, core sampling and whole replacement.

### *Construction:*

This task is **NOT** considered to be construction when the longitudinal timber is being visually inspected only.

When the longitudinal timber is being core sampled then this is considered a construction activity due to the equipment and methodologies being used.

For longitudinal timber replacement this is considered to be construction due to the complexity of the works, the methodologies and the equipment involved.

### *Design Requirements:*

This task requires a specification when a longitudinal timber is to be replaced. The specification will include information on the size and material required for the replacement and the extent and quantity of replacements required (it's not common that there is more than one longitudinal timber to be changed on a structure/in an area).

### *Designer:*

The designer for specifying the material requirements will be that of the track maintenance engineer (TME). This specification shall be supported by appropriate standards.

### **4.2.19 MNT031: Complete Treatment of S&C Unit**

This task is to undertake the maintenance and re-fixing of S&C as a result of rail wear and age. The process includes re-profiling of the rail by use of grinding equipment and refurbishment whilst retaining the main components of the unit (long bearers, crossing and switch tips).

### *Construction:*

This activity is considered to be a construction activity due to the processes involved in undertaking the repairs (e.g. mechanised grinding in accordance to specification and company standards).

### *Design Requirements:*

This task requires there to be a specification for the extent and limits of the remedial treatments to be undertaken.

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### *Designer:*

The designer of these works will be the person identifying the requirements for works to be undertaken and the person completing the relevant engineering form to return for input into the relevant system.

### **4.2.20 MNT032: CWR – Stressing**

This task is to induce a stress to the rails so that they aren't affected by changing temperatures. This task will be undertaken using hydraulic (to perform the stretching of the rails), cutting (cutting the rails to size) and welding (to connect the rail ends) equipment.

### *Construction:*

This task is deemed to be construction due to the equipment and methodologies used to complete the job.

### *Design Requirements:*

The specification will be as a result of an area of infrastructure requiring the stress in the rails to be (a) reinstated or (b) installation stressed.

### *Designer:*

The specification for either item will come as a result of the infrastructure requiring maintenance. The specification will include the length of rail to be stressed and the location at which it is required. Specification will be confirmed by the TME. Design outputs following the task will include the appropriate track engineering forms to update asset management systems (stress route, RDMS, Geogis, etc.).

### **4.2.20 MNT033: Jointed Track Hot Weather Preparation**

This task is where a jointed section of track is prepared for the onset of hot weather. Tasks to prepare the track include the unbolting of 'fish plates' and apply *interflon* or fish plate oil on the 'fishing' surface. Where gaps between rail ends are seen to be non-conformant to standards, the gaps shall be reset.

### *Construction:*

This activity is considered to be a construction activity due to the equipment and methodologies required in completing the job.

### *Design Requirements:*

This task will require a survey to identify the extent of the works required. This survey will form the basis of the specification and identify the extent at which an area requires preparation. Specifications of components and technical information will be available from the applicable standards.

### *Designer:*

The person who is specifying the requirements for the work to be undertaken will note the extents of the work (e.g. patrol man, supervisor, section manager, engineer). The person

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who is appointed to oversee the task shall ensure that all works are done so in accordance with company standards and procedures.

### 4.2.21 MNT034: Patrolling/Track Inspection (Video) Plain Line

This task is where the plain line infrastructure is inspected by train mounted video recording equipment.

#### *Construction:*

This task is **NOT** considered to be a construction activity as it doesn't affect the asset.

#### *Design Requirements:*

This task does not require any design.

#### *Designer:*

NOT APPLICABLE

### 4.2.22 MNT035: Patrolling/Track Inspection (Video) S&C Per End

This task is where the switch and crossing infrastructure per end is inspected by train mounted video recording equipment.

#### *Construction:*

This task is **NOT** considered to be a construction activity as it doesn't affect the asset.

#### *Design Requirements:*

This task does not require any design.

#### *Designer:*

NOT APPLICABLE

### 4.2.23 MNT036: Manual Correction of Plain Line Track Geometry (CWR) Track

This task is where the track geometry is corrected through manual means to rectify top, line and twist faults.

#### *Construction:*

This task is considered to be a construction activity due to the methodologies and the equipment involved in altering the geometry of the track by manual methods.

#### *Design Requirements:*

This task will involve an element of design and specification. The design will be produced from the reports that there is a deficiency in the track geometry. The design will be produced from surveying the track and a competent person overseeing the track being moved by the required amounts into its required position.

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### *Designer:*

The competent person on site shall be the designer for undertaking the implementation of the specified rectification. The levels at which the track shall be lifted will be determined by a survey and quantifying of units. This shall be done so in accordance with company standards.

### **4.2.24 MNT037: Manual Correction of Jointed Track Geometry**

This task is where the track geometry is corrected through manual means to rectify top, line and twist faults.

### *Construction:*

This task is considered to be a construction activity due to the methodologies and the equipment involved in altering the geometry of the track by manual methods.

### *Design Requirements:*

This task will involve an element of design and specification. The design will be produced from the reports that there is a deficiency in the track geometry. The design will be produced from surveying the track and a competent person overseeing the track being moved by the required amounts into its required position.

### *Designer:*

The competent person on site shall be the designer for undertaking the implementation of the specified rectification. The levels at which the track shall be lifted will be determined by a survey and quantifying of units. This shall be done so in accordance with company standards.

### **4.2.25 MNT038: Manual Rail Grinding**

This task is to profile or re-profile a rail as part of routine maintenance or age.

### *Construction:*

This task is considered construction due to the methodologies and equipment required to implement the works.

### *Design Requirements:*

This task will require an element of design in accordance with company standards. This element of design will include a survey and specification that identifies the limits of the required grinding to profile the rail accordingly.

### *Designer:*

The specification will be produced by the person who has identified the rails as needing profiling. An output following the task will sufficiently record the asset in its pre-works condition and following the works. This will be recorded as per company standards.

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### 4.2.26 MNT039: Manual Spot Re-sleeping (Concrete)

This task is to replace a defective or ineffective sleeper by manual means. The sleeper will no longer hold track gauge or support the rail vertically.

#### *Construction:*

This task is considered to be a construction activity due to the methodologies and the equipment involved in altering the geometry of the track by manual methods.

#### *Design Requirements:*

This task will require an element of design as to understand what the current asset condition is and the actions required to reinstate the track to standards (gauge, top, line and twist).

#### *Designer:*

The person who specifies the requirement for the sleeper to be replaced shall identify what the current material is. The section manager or TME shall make suitable arrangements for the area to be further surveyed as to record the current asset condition (this can be done on the same shift as the sleeper being replaced).

### 4.2.27 MNT040: Manual Spot Re-sleeping (woods/steel)

This task is to replace a defective or ineffective sleeper by manual means. The sleeper will no longer hold track gauge or support the rail vertically.

#### *Construction:*

This task is considered to be a construction activity due to the methodologies and the equipment involved in altering the geometry of the track by manual methods.

#### *Design Requirements:*

This task will require an element of design as to understand what the current asset condition is and the actions required to reinstate the track to standards (gauge, top, line and twist).

#### *Designer:*

The person who specifies the requirement for the sleeper to be replaced shall identify what the current material is. The section manager or TME shall make suitable arrangements for the area to be further surveyed as to record the current asset condition (this can be done on the same shift as the sleeper being replaced).

### 4.2.28 MNT041: Manual Ultrasonic Inspection (Plain-Line Rail)

This task is to test the rail section by manual ultrasonic inspection.

#### *Construction:*

This task is **NOT** considered to be construction.

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### *Design Requirements:*

This task will not require a design as it to inspect the rails and not undertake any fundamental asset changes.

### *Designer:*

NOT APPLICABLE

### **4.2.29 MNT042: Manual Ultrasonic Inspection (S&C)**

This task is to test the switch rail and crossing by manual ultrasonic inspection.

### *Construction:*

This task is **NOT** considered to be construction.

### *Design Requirements:*

This task will not require a design as it to inspect the rails and not undertake any fundamental asset changes.

### *Designer:*

NOT APPLICABLE

### **4.2.30 MNT043: Manual Ultrasonic Inspection (RCF – Rolling Contact Fatigue)**

This task is to test a section of rail that has been identified as having rolling contact fatigue.

### *Construction:*

This task is **NOT** considered to be construction.

### *Design Requirements:*

This task will not require a design however the area requiring testing will have been previously specified.

### *Designer:*

NOT APPLICABLE

### **4.2.31 MNT044: Rail Changing – Al-Thermic Weld – Standard Gap**

This task is where a rail has been changed and the rail ends are then re-joined by Al-Thermic welding of a standard gap.

### *Construction:*

This task is considered to be a construction activity due to the equipment and methodologies involved with joining rails.

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### *Design Requirements:*

This task will require a specification that will include location, rail sections, etc. The person undertaking the task will record asset information after the task has been completed. This task will be completed in accordance with company standards.

### *Designer:*

The section manager or supervisor who identifies the need to change a rail/re-weld a rail will produce the specification. The on-site lead will take responsibility for recording post-work information and completing the relevant engineering form.

### **4.2.32 MNT045: Rail Changing – CWR – Renew (defects) Rail**

This task is to replace rails (up to 200m in length) to remove defective rails.

### *Construction:*

This task is considered to be a construction activity due to the equipment and methodologies involved with joining rails.

### *Design Requirements:*

The task will have a specification identifying that there is a rail that requires to be changed, this will be produced by the person who has found the defect (ultrasonic testers, etc.). The section manager or supervisor will go to the site and identify local constraints and requirements (rail section, etc.). The person on site who oversees/technically leads the team to complete the rail change shall record all necessary information on the appropriate engineering form. The process will be done in accordance with the relevant company standards.

### *Designer:*

The section manager or supervisor who surveys the site that needs to have a rail change will produce the specification. The on-site lead will take responsibility for recording post-work information and completing the relevant engineering form.

### **4.2.33 MNT046: Rail Changing – CWR – Renew (due to wear) Rail**

This task is to replace rails (up to 200m in length) due to wearing of the rail section.

### *Construction:*

This task is considered to be a construction activity due to the equipment and methodologies involved with installing and joining rails.

### *Design Requirements:*

The task will have a specification identifying that there is a rail that requires to be changed, this will be produced by the person who has found the defect (ultrasonic testers, etc.). The section manager or supervisor will go to the site and identify local constraints and requirements (rail section, etc.). The person on site who oversees/technically leads the team to complete the rail change shall record all necessary information on the appropriate

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engineering form. The process will be done in accordance with the relevant company standards.

### *Designer:*

The section manager or supervisor who surveys the site that needs to have a rail change will produce the specification. The on-site lead will take responsibility for recording post-work information and completing the relevant engineering form.

### **4.2.34 MNT047: Rail Changing – Jointed – Renew (defects) Rail**

This task is to replace jointed track where there are defects identified.

### *Construction:*

This task is considered to be a construction activity due to the equipment and methodologies involved with installing and joining rails.

### *Design Requirements:*

The task will have a specification identifying that there is a rail that requires to be changed. This will be produced by the person who has found the defect (ultrasonic testers, etc.). The section manager or supervisor will go to the site and identify local constraints and requirements (rail section, etc.). The person on site who oversees/technically leads the team to complete the rail change shall record all necessary information on the appropriate engineering form. The process will be done in accordance with the relevant company standards.

### *Designer:*

The section manager or supervisor who surveys the site that needs to have a rail change will produce the specification. The on-site lead will take responsibility for recording post-work information and completing the relevant engineering form.

### **4.2.35 MNT048: Rail Changing – Jointed – Renew due to rail wear**

This task is to replace jointed track where the rail section is worn.

### *Construction:*

This task is considered to be a construction activity due to the equipment and methodologies involved with joining rails by drilling and plating.

### *Design Requirements:*

The task will have a specification identifying that there is a rail that requires to be changed due to vertical or lateral loss of material. This will be produced by the person who has found the defect (ultrasonic testers, technical team, surveyors, etc.). The section manager or supervisor will go to the site and identify local constraints and requirements (rail section, etc.). The person on site who oversees/technically leads the team to complete the rail change shall record all necessary information on the appropriate engineering form. The process will be done in accordance with the relevant company standards.

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### *Designer:*

The section manager or supervisor who surveys the site that needs to have a rail change will produce the specification. The on-site lead will take responsibility for recording post-work information and completing the relevant engineering form.

### **4.2.36 MNT049: Rail Lubricators - Install/Remove each**

This task is for the installation or removal of rail lubricators to the rail.

### *Construction:*

This task is considered to be a construction activity due to the installation and removal of equipment attached to a structure, and methodologies involved with installation or removal.

### *Design Requirements:*

The task will require a specification to identify the location and reason for the lubricator being required. The section manager or supervisor will go to the site and identify local constraints and requirements (rail section, etc).

### *Designer:*

The section manager or supervisor who surveys the curvature of the track will liaise with the TME as to where the lubricator will be installed. The site lead will install the lubricator and record the information of the location on the appropriate engineering form for asset database to be updated.

### **4.2.37 MNT120: S&C - Renew Crossing**

This task is for the renewal of a crossing unit like-for-like.

### *Construction:*

This task is considered to be a construction activity due to the equipment and methodologies involved with installation or removal.

### *Design Requirements:*

This task will require a survey, specification and site diagram to be produced. The specification will include information that has been captured during the site survey (crossing type, crossing angle, fastenings, etc.).

### *Designer:*

The designer of these works will be that who identifies the requirement for the works to be undertaken. During the implementation of the crossing renewal the person who takes the lead in identifying where the new unit is placed will input into the design process along with the person undertaking the aligning and specification of the welds and/or joining of legends by al-thermic welding or plating (drilling rail ends and bolting together with fish plates.

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### 4.2.38 MNT121: S&C Inspection (Other)

For any inspection where no access equipment is required and where the inspection can take place by walking over the asset and documenting findings without being intrusive (entering an area)

#### *Construction:*

This element of work is **NOT** considered to be construction as it does not require any access equipment, temporary works or intrusive entry to an area.

#### *Design requirements:*

Visual inspections are not expected to require any form of design.

#### *Designer:*

NOT APPLICABLE

### 4.2.39 MNT122: S&C Maintenance (Other)

This task is for undertaking any other element of maintenance on an S&C unit that isn't covered in any of the other S&C MNT task codes.

#### *Construction:*

This element of work *may* require an element of construction activity but will be confirmed during the planning process.

#### *Design requirements:*

Any activity arising from this task will be identified as to its design requirements through any other MNT task codes.

#### *Designer:*

NOT APPLICABLE

### 4.2.40 MNT123: Renew Half-set of switches

This task is to renew a half set (one switch and stock rail) on a switch and crossing unit and any associated base plates or fastenings (if required).

#### *Construction:*

This element of work is considered to be a construction activity due to the methodologies and equipment involved in the removal of existing and installation of replacement items.

#### *Design requirements:*

The specification will be on a like for like basis so the design requirements will be minimal. There may be the requirement for a stressing diagram to be produced if the S&C unit is stressed.

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### *Designer:*

The specification will be produced by a section manager or supervisor as to what the current asset is and the reason for replacement. A lift plan might also be required if the half set is being renewed using mechanical methods.

### **4.2.41 MNT124: Stoneblowing – S&C**

This task is to reinstate the track geometry to specification to improve the quality of the track by ‘blowing’ stones under the sleepers to ‘pack’ the alignment to the required line and level and to eliminate twist faults at switch and crossing units.

### *Construction:*

This task is considered to be construction as the methodologies require that the ballast surface is broken and additional material is added to support the track structure. The track is also repositioned (vertically and horizontally) by using this process.

### *Design Requirements:*

This task does require design. This requirement is to allow for the *Tamper* to reposition the track (horizontally and vertically). The reposition can be to original geometry (existing design) or a manual design. Where there is no existing design, this method of working will manage the tracks position.

### *Designer:*

The designer of these works consists of the following (including their descriptions):

1. *Hallade* teams – undertake survey of track curvature and document the current track position in relation to the speed of the train.
2. Section manager (track) – through a *Trace* (print out from a track recording coach that shows track quality) identifies areas (poor eighths) that require improvement.
3. Track Quality Supervisor (TQS) or Track Geometry Supervisor (TGS) – Person responsible for overseeing the correction of track geometry by mechanised means (*Tamping*).

### **4.2.42 MNT125: Track Inspections (Other)**

This task is to undertake inspections of the track that aren’t covered by any other MNT task code and do what include the use of plant or machinery.

### *Construction:*

This element of work is **NOT** considered to be construction as it does not require any access equipment, temporary works or intrusive entry to an area or of a material.

### *Design Requirements:*

Visual inspections are not expected to require any form of design.

### *Designer:*

NOT APPLICABLE

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### 4.2.43 MNT126: Train Grinding (S&C)

This task is to re-profile the rail head by use of a grinding train.

#### *Construction:*

This task is considered to be construction due to the package of works and equipment involved in affecting the asset so that it is within compliance limits.

#### *Design Requirements:*

The area that is deemed to require grinding and re-profiling would have been scoped and a specification produced. This requirement will form the output definition so that the grinding train team know where and how much is required to be completed.

#### *Designer:*

The RME (rail maintenance engineers) team will produce a specification (WAIF) for an area of track to be profile ground. The volume would be higher than a normal grinding activity to warrant the use of the grinding train. The supervisor/team leader on shift will oversee the activity and will receive the output that the task has been completed to specification and standard.

### 4.2.44 MNT127: Transportation of Materials (to/from site)

This task is for the movement of materials to or from a site of work for construction works, including to and from an access point. The task will include the removal of scrap and materials arising from construction works.

#### *Construction:*

This element of work is considered as construction as it is a specific listed activity in the CDM Regulations 2015 definition of construction works.

#### *Design Requirements:*

Material deliveries will require that an area is inspected and reported as being able to accommodate the vehicle that is delivering the materials. I.E. structural loading, traffic management plan, or temporary works to store the materials safely.

#### *Designer:*

The person confirming that the access point can receive the vehicle will be the *designer*. This information, however, is available through internal systems (hazard directory – vehicle access points).

### 4.2.45 MNT128: Lift and replace level crossing for Pway

To allow a P.Way task to continue through a level crossing, the level crossing has to be lifted. This activity is for the level crossing to be lifted in order to not curtail works on the Pway.

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## *Construction:*

This task is considered to be a construction activity as it removes an asset and then reinstalls for maintenance purposes.

## *Design Requirements:*

The requirements for design will be a specification that identifies which level crossing is required to be lifted, the method of lifting and the lifting plan. There will be a requirement for the road to be closed as well.

## *Designer:*

The person who is specifying the requirement for P.Way activity will identify the requirements for the level crossing to be lifted.

Additional specifications on design will be produced by the lift planner and the road access/highways team in designing a road closure.

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## 4.3 Signalling

### 4.3.1 MNT053: S&T Other Various

All Maintenance and standard repairs including inspections on 'Other Signalling equipment' not specifically defined by other Signalling MNTs.

**Construction:**

This will require a task specific assessment by the person creating the task remit.

**Design Requirements:**

This will require a task specific assessment by the person creating the task remit.

**Designer:**

This will require a task specific assessment by the person creating the task remit.

### 4.3.2 MNT054: Rapid Response (S&T)

This activity is for the responding to and then investigation of a signalling fault. This will result in a WAIF being raised for permanent rectification of the fault.

**Construction:**

This task is not considered to be a construction activity as it is not expected to involve the changing of any assets.

**Design Requirements:**

NOT APPLICABLE

**Designer:**

NOT APPLICABLE

### 4.3.3 MNT150: Signalling Cables

This task is for the inspection and replacement of cables.

**Construction:**

If cables are required to be replaced then this will be considered to be a construction activity.

**Design Requirements:**

Any cables being replaced will be as a result of the inspection and WAIF being raised. The cables will be replaced on a like for like basis, but may require other change to effect installation.

**Designer:**

The specification will come as a result of the inspection of what is already installed and as per standard.

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### 4.3.4 MNT151: Control Panels

This task is for the replacement of control panel components in signal boxes, control centres or at level crossings. Component replacement includes tiles, bulbs, and switches.

#### *Construction:*

This is **NOT** considered to be a construction activity where it is component of a size and weight that single person can safety lift and carry it.

#### *Design Requirements:*

The tiles or components will be replaced on a like for like basis and so the design requirements will be the specification of what needs to be replaced.

#### *Designer:*

The person identifying that a component needs replacing (the operator of the control panel) and then the person replacing and testing the component (S&T Technician).

### 4.3.5 MNT152: Equipment Housing Locations

The cyclical maintenance activities in location cabinets include inspections for silver migration and wire degradation. The task also includes repair or servicing of equipment housings as a result of rapid response, and the replacement of relay bases, wire degradation surveys, silver migration surveys and other minor works.

#### *Construction:*

This task is considered **NOT** to be construction, unless any civil works are undertaken.

#### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of an installation/testing plan.

#### *Designer:*

This is task dependent, but is likely to be the maintenance signalling engineer.

### 4.3.6 MNT153: Equipment Housing (REB)

This is for the replacement of REB's and associated equipment.

#### *Construction:*

Where the REB itself is being removed or replaced then this **IS** considered to be a construction activity. For the replacement of internal parts then this is not a construction activity.

#### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of an installation/testing plan.

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### *Designer:*

Dependent on the task, but likely to be the specify of the work, and the engineer taking local decisions.

### **4.3.7 MNT154: Mechanical Interlocking**

This task is for the maintenance and replacement of mechanical interlocking trackside or inside a signal box including ground frames.

### *Construction:*

This task is considered to be a construction activity as there is a change to the asset that occurs.

### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of an installation/testing plan.

### *Designer:*

To be determined based on the specific task.

### **4.3.8 MNT155: Point end routine maintenance (non-powered point)**

The routine point end maintenance on non-powered point end (hand point or mechanical interlocking).

### *Construction:*

This activity is not considered to be construction as it doesn't involve the removal or replacement of any items.

### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

### *Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

### **4.3.9 MNT156: Point end routine maintenance (powered point)**

The routine point end maintenance on powered point. This includes fault finding, component replacement (where required) but excludes wiring and cable replacement.

### *Construction:*

This activity is not considered to be construction as it doesn't require the asset being maintained to be removed (fixed plant).

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### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

### *Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

### **4.3.10 MNT157: Relay based interlocking**

1. Signal box equipment housed in racking – fault finding and component replacement
2. Equipment in a 'fixed' location, could be connected to a radio transmitter.
3. Equipment housed in signal boxes (Block apparatus).

This item is the fault finding and component replacement at the above mentioned locations.

### *Construction:*

This task is not considered to be construction as it doesn't require the equipment to be removed or the area to have an intrusive survey.

### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

### *Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

### **4.3.11 MNT159: Signals Routine Maintenance of Colour Lights**

Inspection and maintenance of poles and lights with replacements if so required.

### *Construction:*

This activity is considered to be construction as it requires access equipment to work from heights and the methodologies involved to replace equipment.

### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

### *Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

### **4.3.12 MNT160: Signals Routine Maintenance of mechanical signalling**

The inspection and maintenance of poles, lamps and troughing (mechanical and electrical).

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### *Construction:*

This activity is considered to be construction as it requires access equipment to work from heights and the methodologies involved to replace equipment.

### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

### *Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

### **4.3.13 MNT161: Train Describer/RCM**

Inspection and maintenance of train describer systems including fault finding.

### *Construction:*

This activity is **NOT** considered to be construction as it doesn't require specialist access or the affected assets to be removed to undertake the activity.

### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

### *Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

### **4.3.14 MNT162: Train Detection – Axle Counters**

### *Description:*

Inspection and maintenance of train detection systems including fault finding. Where applicable the replacement or installation of new or replacement assets.

### *Construction:*

This activity is considered to be construction where an axle counter unit is required to be removed and/or replaced to perform its maintenance.

### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

### *Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

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### 4.3.15 MNT163: Train Detection – TC's AC

Inspection and maintenance of train detection systems including fault finding. Where applicable the replacement or installation of new or replacement assets.

#### *Construction:*

This activity is considered to be construction where an axle counter unit is required to be removed and/or replaced to perform its maintenance.

#### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

#### *Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

### 4.3.16 MNT165: Train Protection

The inspection, maintenance and component replacement (where required) of train protection equipment including AWS, TPWS, Train Stops, Trip Cock Tester.

#### *Construction:*

This activity is considered to be construction where an asset unit is required to be removed and/or replaced to perform its maintenance.

#### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

#### *Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

### 4.3.17 MNT166: UPS (Uninterrupted Power Supply)

The inspection, maintenance and component replacement of UPS systems

#### *Construction:*

This activity is considered to be construction where the UPS unit is required to be removed in order to undertake the routine maintenance activity. Where the UPS is required to be replaced, this also is considered construction.

#### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

#### *Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

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### 4.3.18 MNT167: Level Crossings

This task is for the maintenance of signalling equipment at level crossings and includes fault finding, component replacement and testing of changed items. Other items are the installation of traffic lights, replacement of wires, maintenance of barriers. Excludes 'field' equipment.

#### *Construction:*

This activity is considered to be construction where an asset unit is required to be removed and/or replaced to perform its maintenance e.g. lowering of a wig-wag unit to clean or test it.

#### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

#### *Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

### 4.3.19 MNT168: Electronic Interlocking

The inspection, fault finding and component replacement of electronic interlocking systems

#### *Construction:*

This activity is considered **NOT** to be construction unless an intrusive survey is required to find a fault and replace a component.

#### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

#### *Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

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### 4.4 Electrification and Plant

#### 4.4.1 MNT201: E&P Other (Various)

This task is for the inspection, maintenance and replacement of components or cables as part of the electrification and plant system that isn't covered by any other MNT task codes for E&P.

**Construction:**

This activity is considered to be construction where a component or cable is identified as needing replacement and the activity is undertaken. It is also considered to be a construction activity where access is required at height or a piece of equipment is required to be lowered.

**Design Requirements:**

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

**Designer:**

E&P Engineer

#### 4.4.2 MNT202: E&P Patrolling and Inspections of 3<sup>rd</sup> Rail

This task is for the visual inspection of the 3<sup>rd</sup> rail in electrified areas. This includes the rail and associated components.

**Construction:**

This activity is not considered to be construction as it is only a visual inspection of the 3<sup>rd</sup> rail and its associated components.

**Design Requirements:**

NOT APPLICABLE

**Designer:**

NOT APPLICABLE

#### 4.2.3 MNT203: E&P Patrolling of OLE (Overhead Line Equipment)

This task is for the visual inspection of the OHLE in electrified areas. This includes the bonds and associated connection components.

**Construction:**

This activity is not considered to be construction as it is only a visual inspection of the OHLE and its associated components.

**Design Requirements:**

NOT APPLICABLE

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*Designer:*

NOT APPLICABLE

#### 4.4.4 MNT204: Maintain and Test Air Systems

The inspection, maintenance and testing of air systems including component and pipe replacements where required.

*Construction:*

This activity is considered to be construction where a part of the air system is required to be replaced.

*Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

*Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

#### 4.4.5 MNT205: Maintain AC Traction Power Supply Systems

The inspection, maintenance and testing of AC power supply systems including fault finding and component replacement. This includes switchgear, transformers and circuit breakers.

*Construction:*

This activity is considered to be construction where a part of the AC traction system is required to be replaced.

*Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

*Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

#### 4.4.6 MNT206: Maintain Conductor Rail

The inspection, maintenance and testing of the conductor rail system including replacing rail, pots and guard boards but **excludes** lineside cables.

*Construction:*

This activity is considered to be construction due to the methodologies and equipment required to undertake the replacement of a component.

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### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

### *Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

#### **4.4.7 MNT207: Maintain CRE (Conductor Rail Equipment) Cable Various**

The inspection, maintenance and testing of CRE cables of various parts of the system.

### *Construction:*

This activity is considered to be construction due to the methodologies and equipment required to undertake the replacement of a component.

### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

### *Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

#### **4.4.8 MNT208: Maintain D&P (Distribution and Plant) Cables**

The inspection, maintenance and testing of D&P cables including replacement where required.

### *Construction:*

This activity is considered to be construction due to the methodologies and equipment required to undertake the replacement of a cable. The inspection of a cable is not considered to be a construction activity.

### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

### *Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

#### **4.4.9 MNT209: Maintain DC Traction Power Supplies**

The inspection, maintenance and testing of DC Traction power supplies including component or cable replacement where required.

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### *Construction:*

This activity is considered to be construction due to the methodologies and equipment required to undertake the replacement of a component or cable. Inspection is not considered to be a construction activity unless it is intrusive.

### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

### *Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

#### **4.4.10 MNT210: Maintain non-traction Power Supplies**

The inspection, maintenance and testing of non-traction power supplies. This includes switchgear, transformers and circuit breakers that are not a part of the signalling or power systems.

### *Construction:*

This activity is considered to be construction due to the methodologies and equipment required to undertake the replacement of a component or cable. Inspection is not considered to be a construction activity unless it is intrusive.

### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

### *Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

#### **4.4.11 MNT211: Maintain OLE components**

The inspection, maintenance and testing of OLE components.

### *Construction:*

This activity is considered to be construction due to the methodologies and equipment required to undertake the replacement of a component or cable. Inspection is not considered to be a construction activity unless it is intrusive.

### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

### *Designer:*

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

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### **4.4.12 MNT212: Maintain Points Heating**

The inspection, maintenance and testing of point heating equipment. This includes electrical and gas systems. Also covers component replacement and commissioning of new items.

#### ***Construction:***

This activity is considered to be construction due to the methodologies and equipment required to undertake the replacement of a component or cable. Inspection is not considered to be a construction activity unless it is intrusive.

#### ***Design Requirements:***

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

#### ***Designer:***

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

### **4.4.13 MNT213: Maintain Signalling Power Supplies**

The inspection, maintenance and testing of signalling power supplies. This includes switchgear, transformers, circuit breakers and cables. This is a sub task from maintain D&P supplies.

#### ***Construction:***

This activity is considered to be construction due to the methodologies and equipment required to undertake the replacement of a component or cable. Inspection is not considered to be a construction activity unless it is intrusive.

#### ***Design Requirements:***

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

#### ***Designer:***

TO BE DETERMINED BASED ON THE SPECIFIC TASK.

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## 4.5 Telecommunications

### 4.5.1 MNT101: Telecoms Cable Maintenance

This task is for the inspection, maintenance and replacement of cables on the telecoms network.

***Construction:***

This activity is considered to be construction where a cable is identified as needing replacement and the activity is undertaken.

***Design Requirements:***

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

***Designer:***

Route Communications Engineer

### 4.5.2 MNT102: Concentrator Maintenance

This task is for the inspection, maintenance and replacement of concentrators in racking.

***Construction:***

This activity is considered to be construction where an identified concentrator needs replacement and the activity is undertaken.

***Design Requirements:***

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

***Designer:***

Route Communications Engineer

### 4.5.3 MNT103: DDO (Driver Operated Opening) CCTV Maintenance

This task is for the inspection, maintenance and replacement of DDO CCTV equipment, cables and structures.

***Construction:***

This activity is considered to be construction where a system is required to be lowered and removed to replace it. Also construction if the post that the equipment is housed on requires to be replaced.

***Design Requirements:***

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

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### *Designer:*

Route Communications Engineer

#### **4.5.4 MNT104: GSM-R Maintenance**

This task is for the inspection, maintenance and replacement of cables and components within GSM-R locations.

### *Construction:*

This activity is considered to be construction where a cable is identified as needing replacement and the activity is undertaken. Also considered to be a construction activity where a component to be replaced is required to be intrusive to do so.

### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

### *Designer:*

Route Communications Engineer

#### **4.5.5 MNT105: Legacy Radio Maintenance**

This task is for the inspection, maintenance and replacement of legacy radio equipment on the national network.

### *Construction:*

This activity is considered to be construction where a cable is identified as needing replacement and the activity is undertaken. Components that require intrusive access or survey is also considered to be construction.

### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

### *Designer:*

Route Communications Engineer

#### **4.5.6 MNT108: SISS (Station Information and Security Systems) – CCTV Maintenance**

This task is for the inspection, maintenance and replacement of components or cables as part of the CCTV system in a SISS area..

### *Construction:*

This activity is considered to be construction where a component or cable is identified as needing replacement and the activity is undertaken.

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## *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

## *Designer:*

Route Communications Engineer

### **4.5.7 MNT109: SISS (Station Information and Security Systems) – CIS (Customer Information Systems) Maintenance**

This task is for the inspection, maintenance and replacement of components or cables as part of the CIS system.

## *Construction:*

This activity is considered to be construction where a component or cable is identified as needing replacement and the activity is undertaken. It is also considered to be a construction activity where access is required at height or a piece of equipment is required to be lowered.

## *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

## *Designer:*

Route Communications Engineer

### **4.5.8 MNT110: SISS (Station Information and Security Systems) – Public Address System Maintenance**

This task is for the inspection, maintenance and replacement of components or cables as part of the public address system.

## *Construction:*

This activity is considered to be construction where a component or cable is identified as needing replacement and the activity is undertaken. It is also considered to be a construction activity where access is required at height or a piece of equipment is required to be lowered.

## *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

## *Designer:*

Route Communications Engineer

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### 4.5.9 MNT111: Telecoms Power Maintenance

This task is for the inspection, maintenance and replacement of components or cables as part of the telecoms power system.

#### *Construction:*

This activity is considered to be construction where a component or cable is identified as needing replacement and the activity is undertaken. For surveys required to be intrusive, this would also be considered a construction activity.

#### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

#### *Designer:*

Route Communications Engineer

### 4.5.10 MNT113: Telecoms (Other)

This task is for the inspection, maintenance and replacement of components or cables as part of the telecoms system that isn't covered by any other MNT task codes for Telecoms.

#### *Construction:*

This activity is considered to be construction where a component or cable is identified as needing replacement and the activity is undertaken. It is also considered to be a construction activity where access is required at height or a piece of equipment is required to be lowered.

#### *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

#### *Designer:*

Route Communications Engineer

### 4.5.11 MNT114: FTN (Fixed Telecoms Network) Maintenance

This task is for the inspection, maintenance and replacement of components or cables as part of the fixed telecoms network that isn't covered by any other MNT task codes for Telecoms.

#### *Construction:*

This activity is considered to be construction where a component or cable is identified as needing replacement and the activity is undertaken. It is also considered to be a construction activity where access is required at height or a piece of equipment is required to be lowered.

# CDM Note 005: Maintenance & CDM 2015

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## *Design Requirements:*

The specification and requirement for replacement, identifying type and style of equipment and production of a testing plan.

## *Designer:*

Route Communications Engineer.