

**PART M06**  
**MAINTENANCE INSPECTION AND REPORTING**

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**1. GENERAL**

- .1 This Part specifies maintenance inspection, recording and reporting requirements. It also includes activity nomenclature and protocols.
- .2 To ensure that maintenance and rectification work can be undertaken to achieve the standards specified in this Contract, the Contractor shall:
  - (a) undertake inspection of the Network; and
  - (b) identify, record and report defects.
- .3 The following documents are referenced in this Part:
  - (a) Part M05 Maintenance Works
  - (b) Part M06 Maintenance Inspection and Reporting
  - (c) Part M11 Maintenance General Provisions
  - (d) DPTI Vegetation Removal Policy
  - (e) DPTI Form 435
  - (f) SA Police Report
  - (g) DPTI standard drawings are available from the following web site:  
<http://www.dpti.sa.gov.au/standards>.

**2. QUALITY REQUIREMENTS**

- .1 At a minimum, the Contractor's Quality Plan shall include the following documents, procedures and/or instructions:
  - (a) procedure for the identification and reporting of defects in the Contractor's Maintenance Defect Register (MDR) and to include the method for consistent identification and reporting;
  - (b) procedure to verify that inspections of the Network were undertaken;
  - (c) procedure for ensuring identified defects are repaired in accordance with Part M05 Maintenance Works, Clause 1 "General"; and
  - (d) procedure for the management of third party claims resulting from injury or damage to property.
- .2 If not provided beforehand, this documentation shall be submitted at least 28 days prior to the commencement of the Maintenance Period.

**3. INSPECTIONS****General**

- .1 The Contractor shall undertake the following inspections of the Network:
  - (a) Loop Inspections;
  - (b) Network Inspections;
  - (c) Asset Inspections; and

- (d) Initiation / Completion Inspections.
- .2 Inspections and their type shall be clearly identified in the Contractor's Program of Work (refer Part M11 Maintenance General Provisions, Clause 1 "Program of Work"). Joint Inspections, whereby the Superintendent accompanies the Contractor during the course of the inspection, shall be undertaken when directed by the Superintendent.
- .3 Inspections shall be undertaken at a frequency to ensure that:
  - (a) the Network is safe;
  - (b) structural deterioration of the asset elements can be prevented; and
  - (c) specified Response Times can be achieved.
- .4 The interval between inspections shall not exceed the period in Table 3.4.

<b>TABLE 3.4 INSPECTION INTERVALS</b>	
<b>INSPECTION TYPE</b>	<b>MAXIMUM TIME BETWEEN INSPECTIONS</b>
Loop Inspections	Two weeks or more frequently where the incidence of safety related defects is significant or unless specified in Contract Specific Requirements
Network Inspections (entire network)	One month
Joint Network Audit (minimum of 10% of network length)	Quarterly
Asset Inspections: Signs and delineators	Year One, and every second year thereafter
Asset Inspections: Bridge	Two years
Asset Inspections: Safety Barrier System	Two years
Asset Inspections: Wire Rope	Two years
Asset Inspections: Drainage Elements	Two years
Asset Inspections: Following an event likely to have had a detrimental effect on the asset, (e.g. storms, flood, bushfires)	Immediately after the event

- .5 The Contractor's inspection vehicle shall be fitted with appropriate safety equipment for conducting Network inspections, in accordance with AS 1742.3.

**Loop Inspections**

- .6 Loop Inspections shall be undertaken to ensure that the performance standards within Routine Maintenance are met, defects relating to safety are addressed within 24 hours and compulsory intervention levels are not exceeded.
- .7 This includes verifying and recording:
  - (a) repair to potholes;
  - (b) replaced missing or damaged regulatory signs;
  - (c) removal of debris from the carriageway including pavement sweeping on road pavement and pedestrian crossings and walkways;
  - (d) repairs (or made safe) damaged safety barriers, wire rope safety barriers and fences;
  - (e) litter collected; and
  - (f) accident damage.

- .8 The Contractor shall maintain documentary evidence, verifying loop inspections and record the nature and location of repairs undertaken. This information shall be submitted to the Superintendent within one working day of request.

#### **Network Inspections**

- .9 Network Inspections shall be undertaken to identify defects reaching Intervention Levels and completed works (whether completed by the Contractor or work by others refer Part M11 Maintenance General Provisions) and record them on the MDR for the entire Network.
- .10 The Contractor shall inspect all asset elements for defects at or above the "Intervention Level" and shall stop and measure defects where observed.
- .11 Any defects reaching the Compulsory Intervention Level (CIL) shall be rectified as per Part M05 Maintenance Works, Clause 5 "Routine Maintenance".

#### **Asset Inspections**

- .12 Asset inspections shall be undertaken to determine the structural integrity and/or the performance of the assets.
- .13 Visual inspections of signs and delineators shall be undertaken at night to check reflectivity.
- .14 Inspections of Drainage Elements shall include bridge elements.
- .15 Inspections required in the last year of the maintenance contract shall be taken 6 months prior to the conclusion of the Maintenance Period.
- .16 Asset condition reports for elements shall be submitted to the Superintendent within one month of completion of the asset inspections.

#### **Initial, Handover and Completion Inspections**

- .17 The Contractor and the Superintendent shall jointly undertake the following Network Inspections:
  - (a) during the Establishment Period to establish the Maintenance Defect Register; and
  - (b) 6 months prior to the conclusion of the Maintenance Period.
- .18 The Contractor and the Superintendent shall undertake a joint inspection of any new assets to be handed over to the Contractor to maintain.

#### **Joint Network Audit**

- .19 The Contractor and the Superintendent shall jointly undertake an audit of 10% of the Network length to be selected by the Superintendent, quarterly (at a minimum). The audit shall identify response times, defects reaching Intervention Levels and completed works (whether completed by the Contractor or work by others, refer Part M11 Maintenance General Provisions, Clause 20 "Work by Others"). The audit will also include the verification of all 'Asset Inventory' (refer Part M11 Maintenance General Provisions).
- .20 The audit will represent the entire Network area and will be used to verify the accuracy of the MDR (refer Part M05 Maintenance Works, Clause 5 "Routine Maintenance").
- .21 The Contractor and Superintendent shall stop and measure defects where observed.

### **4. RECORDING AND REPORTING REQUIREMENTS**

#### **General**

- .1 The Contractor shall record the information required by this Part and supply the information to the Superintendent electronically. The information shall be in the format provided by the Principal, as amended from time to time, and included in the Appendices. All asset inspection reporting and audit results shall be forwarded to the Superintendent within one week of completion of the inspection or audit.
- .2 Other reports or information requested by the Superintendent shall be submitted within one week of notification.

#### **Reporting of Defects**

- .3 The Maintenance Standards specify which defects shall be reported to the Superintendent. The Contractor shall report this information in the Maintenance Defects Register (MDR), which captures the following information for each of these defects:

- (a) Defect Type (by Activity code);
  - (b) Dimensions/scope of defect and dimensions of repair;
  - (c) DPTI Road Number and Name;
  - (d) On road location by Maintenance Marker (MM) and distance along the road (or road running distance (RRD) where supplied) / GPS Coordinates;
  - (e) Lane designation (Carriageway Code);
  - (f) Date recorded;
  - (g) Response time; and
  - (h) Date completed.
- .4 The location and extent of pavement defects shall also be marked on the pavement unless agreed otherwise with the Superintendent. Defects on sections of the Network exempt from Routine Maintenance shall also be recorded on the MDR.
- .5 The Contractor shall supply monthly an updated MDR to the Superintendent with each payment claim and the percentage of defects (per activity) "not completed" within the response time for the month.
- .6 The Superintendent reserves the right to recalculate the percentage of defects "not completed" from the data presented if considered necessary.
- .7 The Contractor shall also use the updated MDR to calculate the Network Performance Condition refer Appendices and Part M05 Maintenance Works, Clause 5.3 "Network Performance Condition Reporting".
- .8 The Contractor shall provide the MDR detailing all open and closed defects at the request of the Superintendent within 3 working days.

#### **Asset Inventory**

- .9 The Principal will provide asset registers for the following asset types:
- (a) Road signs;
  - (b) Safety Barriers and Wire Rope;
  - (c) Drainage;
  - (d) Fencing (including pedestrian fencing);
  - (e) Rest Areas;
  - (f) Stack sites; and
  - (g) Roadside-significant sites.
- .10 Within 18 months from the commencement of the maintenance period the Contractor shall check, identify and log all inventory changes or additions in these asset registers and supply the updated registers to the Superintendent electronically at the end of this period. This electronic data shall be in an excel format or other format as agreed to by the Superintendent.
- .11 The spatial positioning of all asset inventory shall meet the following requirements:
- (a) Coordinate System: Geocentric Datum of Australia 1994 (GDA94) or WGS84 equivalent;
  - (b) Format: Latitude & Longitude in Decimal Degrees; and
  - (c) Precision: Minimum of 6 decimal places.
- .12 The Contractor shall maintain these registers for the duration of the Contract and shall provide a copy of the current dataset every 6 months for the life of the Contract and a final set at the end of the Contract.
- .13 The information shall be checked for validity at the time of entry and be provided using the data schema specified by the Principal and included in the Appendices.
- .14 The Principal may from time to time, provide to the Contractor additional asset registers which will be required to be managed in accordance with this Part.
- .15 During the course of the contract, the Contractor shall also identify and log any new/additional assets if not already done so by the Principal.

**Roadside Vegetation Maintenance**

- .16 The Contractor shall maintain the following records:
- (a) Spray task records detailing chemical sprayed, application system, location, weather conditions and date of spraying; and
  - (b) Any tree removal under Table 3.2 "Legislative and Approval Requirement" of DPTI's Vegetation Removal Policy including location details, photographs and reasons for removal. The Contractor shall submit to the Superintendent records of all vegetation removed under Table 3.2 within seven days of the removal.

**Emergency Response**

- .17 The Contractor shall maintain records of:
- (a) Calls relating to Emergency Response;
  - (b) Lane closures exceeding 1 hour or where peak hour traffic is affected; and
  - (c) Discussions with the Principal's Traffic Management Centre.

**Damage to the Principal's Property**

- .18 The Contractor shall report to the Superintendent any accident damage or vandalism to the Principal's property where the cost of repair can be assigned to a known offender, or the anticipated total cost of repair is greater than \$1 000 where the offender is unknown. The total costs include site attendance charges and other Routine Maintenance costs associated with the activity.
- .19 The Contractor shall:
- (a) submit a report using DPTI Form 435 within 48 hours of becoming aware of the incident;
  - (b) at the request of the Superintendent submit an estimate of repairs within 7 working days of reporting the damage;
  - (c) cross reference the estimate and accident form with SA Police report number where damage resulted from a vehicle accident; and
  - (d) not recover the cost of repairs from the person responsible for the damage.

**Work Undertaken by the Contractor**

- .20 The Contractor shall submit records of work undertaken under the Contract with each progress claim. The records shall detail Emergency Response work, Routine Maintenance work and Specific Maintenance work.

**5. REPORTING OF THIRD PARTY CLAIMS**

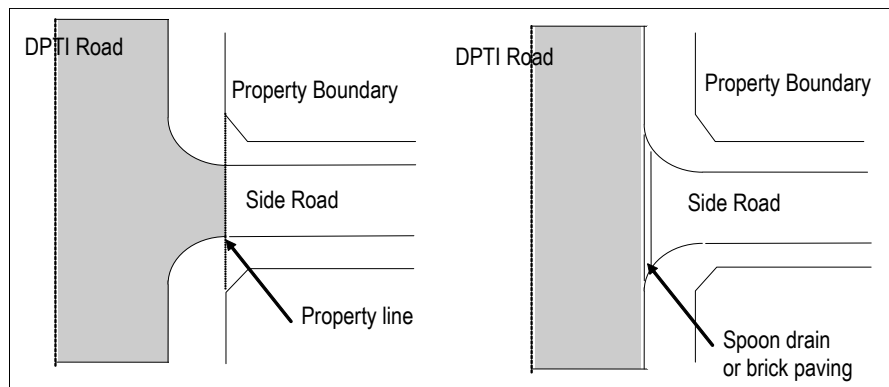
- .1 The Contractor shall develop and implement a system, which records, analyses and provides a written response to all claims for injury or damage to property made by third parties relating to use of the Network. The system shall be capable of recording information concerning the condition of the Network where relevant to the claim. The Contractor shall provide the Superintendent with quarterly reports on these claims, which includes details of the nature of the defect relating to each claim.
- .2 All written responses to claimants shall be within 30 days of receipt of the claim advising:
- (a) acceptance or denial of the claim;
  - (b) referral to another party; or
  - (c) referral to the insurers or solicitors for resolution.

**6. ROAD HIERARCHY****Location Protocol**

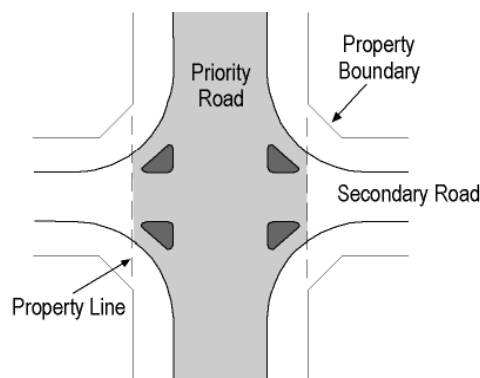
- .1 Road Asset Information and defects shall be recorded by:
- (a) Maintenance Marker plus distance along the road in rural areas; or
  - (b) Road Running Distance (RRD) in urban areas.
- .2 At intersections and junctions, defects shall be assigned to one designated priority road in accordance with the following:

- (c) Where both roads are National Highway priority shall be assigned the lower National Link Number;
  - (d) Where one road is a National Highway priority shall be assigned to the National Highway; or
  - (e) Where neither roads are National Highway priority shall be assigned the road with the higher road number.
- .3 The extent of pavement assigned to the priority road shall be in accordance with Figure 6.1 (a) and (b). The location of assets located on council maintained side roads shall be recorded as the intersection location plus offset noted as L (left) or R (right) and the distance to the asset.

**EXTENT OF PAVEMENT ASSIGNED TO ONE ROAD**



**FIGURE 6.1(a) T-JUNCTION**



**FIGURE 6.1(b) MAJOR INTERSECTION**

**DPTI Road Centreline System**

**Overview**

- .4 The Road Centreline System (RCS) has been established by the Principal to provide a location framework for storing and integrating all road related data. Referencing guidelines are found in Appendix 1.

**Location Markers**

- .5 Maintenance markers (MM) are used as a field location reference. Generally markers are placed approximately 1 km apart and are identified by a distance plate attached to a star dropper. Maintenance Markers are usually not present in urban areas.
- .6 The RRD are measured in kilometres from the start of the road along the principal carriageway (left hand side for divided roads).

**Road Asset Maintenance Hierarchy**

- .7 The Network functional status is recognised by Road Asset Maintenance category (RAM cat). The Principal has defined four levels for the RAM cat, which are detailed in the Appendices.

**7. MAINTENANCE CODES**

.1 The codes listed in Table 7.1 shall be used in the identification of defects.

<b>TABLE 7.1 MAINTENANCE CODES</b>				
<b>PART</b>	<b>ASSET ELEMENT</b>	<b>TASK DESCRIPTION</b>	<b>MAINTENANCE CODE</b>	
			<b>ROUTINE</b>	<b>SPECIFIC</b>
110M	Trenches	Excavation Or Trenching By Others		TR
811	Drainage	Scour Repair		SS
811	Drainage	Clear Drainage Elements	DC	DR
811	Drainage	Clear Open Drains and Lined Drains	DD	DO
811	Drainage	Clear Subsoil Drains	DS	
812	Pavement	Crack Sealing		PK
812	Pavement	Pothole Repair	PP	
812	Pavement	Pavement Sweeping	PW	
812	Pavement	Local Shape Correction		PL
812	Pavement	Edge Break Repair	PE	
812	Pavement	Pavement Digouts	PN	PJ
812	Pavement	Repairs to Bituminous Surfacing	PS	PT
812	Pavement	Traffic Island Maintenance	RT	RI
812	Pavement	Low Castings		LC
813	Unsealed Surface	Unsealed Surface	SG	
813	Unsealed Surface	Resheeting Unsealed Surfaces		SR
814	Roadside Furniture	Safety Barrier	FB	FG
814	Roadside Furniture	Wire Rope	WR	WG
814	Roadside Furniture	Fence	RF	RB
814	Roadside Furniture	Maintenance Installation & Replacement of Delineators	FD	FP
814	Roadside Furniture	Maintenance Installation & Replacement of Signs	FR	FS
815	Roadside Vegetation	Mowing	RM	
815	Roadside Vegetation	Herbicide Treatment	RS	
815	Roadside Vegetation	Vegetation Control	RV	RR
816	Amenity	Road User Amenity Maintenance	RA	RP
816	Amenity	Litter Collection	RL	RC
817	Miscellaneous	Reporting Accident Damage and Vandalism	MA	
817	Miscellaneous	Emergency Response	ME	
817	Miscellaneous	Graffiti Removal	MG	

**8. HOLD POINTS**

.1 There are no Hold Points referenced in this Part.