Part 9 Compliance with Standards for Reconfigurations and Site Development Works

Division 1 General

(1) The aim of this Part is to provide the requirements of the Local Government for the inspection and certification of any works which will become part of the Local Government's infrastructure, i.e. Roadworks, Stormwater Drainage, Streetscape and Park Landscaping Works.

9.1.2 Need for Quality Assurance

(1) The infrastructure works and other elements of a subdivisional estate and other types of developments will become a part of the Local Government's infrastructure.

(2) Responsibility for the on-going maintenance of this infrastructure will lie with the Local Government and, thus, the ratepayers.

(3) Compliance with the requirements of this General Works – Planning Scheme Policy needs to be assured through a process of testing, inspection, and certification before work may be accepted Off Maintenance and full responsibility for the works transferred to the Local Government.

Division 2 Compliance Procedures

9.2.1 General

(1) Developers and their consultants or agents remain at all times responsible to ensure that all works are executed in accordance with principles of sound engineering or landscaping design and construction and are in accordance with this Planning Scheme Policy.

(2) It is the responsibility of the developer or consultant to arrange for all testing, inspections and certifications.

9.2.2 Testing

(1) The testing requirements as detailed in this part are summarised for ready reference in Appendix 3.5 – "Compliance Requirements for Public (Municipal) Works".

(2) Appendix 3.5 indicates when the test results are to be supplied to the Local Government.

9.2.3 Certification

(1) To enable formal acceptance of the works "On Maintenance", the following certificates, certified drawings or other items are generally required to be supplied by the Consultant engaged to supervise the works:

a. pre-inspection checklist (refer Appendix 3.4);
b. engineering certification (refer Appendix 3.1);
c. geotechnical and structural certificates (where applicable);
d. "as constructed" information;
e. copies of all relevant test results;
f. maintenance Security Deposit (refer Section 10.1.3 (7);
g. written clearances to be obtained for works carried out on land under other ownership, upon completion of the works;
h. any other documentation as may be required by the Local Government;
i. payment of any outstanding Fees and Permits; and
j. completed copies of the Water Sensitive Urban Design construction and any outstanding establishment sign-off forms.

(2) To enable formal acceptance of the works "Off Maintenance" the provision of items as agreed to by the Local Government at the time of formal acceptance of the works "on-maintenance".

9.2.4 Inspections

(1) The Local Government will carry out inspections outlined in section 9.2.4(3) which are to be attended by the

Consultant.

Note 9.2.4A:

1. Local Government officers will not deal directly with Contractors.
2. The Consultant is expected to undertake all other inspections on drainage, roadworks, earthworks and landscaping works etc., as are necessary to ensure that the finished product conforms to standards and is "fit for its intended purpose".

(2) Random/Audit inspections are to be undertaken by the Local Government Officers to ensure adequate quality control is being employed.

(3) The minimum notice required for any inspection or meeting to be attended by the Local Government Officers is as follows:

a. Pre-Start Meeting	3 working days
b. Pavement Subgrade	24 hours
c. Preseal Inspection	24 hours
d. Plant stock inspection	24 hours
e. On Maintenance (provided all documentation is available)	5 working days
f. Off Maintenance	10 working days

Note 9.2.4B:

1. The inspection or meeting lead times should not be an imposition on Consultants if a reasonable level of job control is in place.
2. These lead times may be reduced by the Local Government wherever possible.
3. The Local Government will not normally carry out inspections of civil works or internal landscaping works associated with Community Title Schemes, Multiple Residential or Similar Developments etc (i.e. works which are to remain the property of the owner).
4. The Consultant is expected to undertake inspections as necessary to ensure the finished product conforms to standards and is "fit for its intended use".
5. Planting stock equivalent to a 100 litre bag size or greater is required to be inspected prior to planting.

Division 3 Pre-Start Meeting

9.3.1 General

(1) Prior to construction work commencing, the Local Government's representative is to attend the pre-start meeting.

(2) The information requested in section 6.2.2(1)(a) of this Planning Scheme Policy is to be forwarded to the Local Government prior to the above meeting.

Division 4 Subgrade Inspections

9.4.1 Pavement Thickness

(1) Following acceptance of the engineering drawings by the Local Government, the Consultant is to arrange for soil testing and submit a proposed pavement design to the Local Government for approval, in accordance with Part 1, Division 2 — Flexible Pavement Design.

(2) Subgrade CBR tests as required in section 1.2.1 of this Planning Scheme Policy are required to be submitted to enable assessment to be made of the pavement design.

(3) The Local Government will advise in writing of the acceptance or otherwise of pavement designs and subgrade tests.

(4) Approval of pavement designs is based on the tests being representative of the subgrade over the various lengths of road at the box depth.

(5) This is subject to confirmation by load testing upon inspection as per section 9.4.3.

Note 9.4.1A:

1. The consultant is to verify on site that the subgrade tests are representative of that on which the pavement approval is based prior to requesting a box inspection by Local Government representatives.
2. The subgrade inspection is to be limited to a visual and load test, with the load test using machinery/plant to be provided by the Developer's Contractor.

9.4.2 Visual Test

(1) The visual test is used to:
a. confirm that the pavement excavation depth is in accordance with the approved depth;
b. ensure that the base of the box is even with correct crown and crossfall, and that the sides are vertical;
c. check that the subgrade material is consistent in type and colours with the tested material on which the design was based and that the subgrade material is uniform throughout the exposed section; and
d. ensure that the base is free from wet spots or any other visually defective areas, e.g. tree stumps and other organic/inorganic matter.

Note 9.4.2A: String lines and tape with necessary personnel are to be provided by the Consultant.

9.4.3 Load Test

(1) For the Load Test a full water cart, pipe-laden truck or other acceptable rolling load is to pass along the subgrade at a speed equivalent to a slow walk, i.e. about 2km/hr.

(2) Minimum loads on the rear wheels are to be eight (8) tonne (or two (2) tonne per tyre).

(3) The material should be as near as practicable to the optimum moisture content.

Note 9.4.3A:
1. Proof loading is normally required to check for any area of the subgrade which might show signs of deflection.
2. Deflections detected in the subgrade indicating a weakness in the sub-strata will require remedial treatment under the Consultant's direction.

9.4.4 Subgrade Compaction Testing

(1) Field density testing is to be carried out at the frequency nominated in section 7.4.2 of this Planning Scheme Policy.

(2) All test results are to be available at the inspection.

(3) Advice of remedial treatment is to be included with any failed test results.

(4) The minimum acceptable density is 100% Standard Maximum Dry Density and this is to be achieved at or near to the Optimum Moisture Content.

9.4.5 Remedial Treatments

(1) Subgrades that are deemed to have failed any of the tests as outlined in this Division 4 may require remedial treatments.

(2) These remedial treatments may include, but are not limited to, the following:
a. additional excavation to reach a sound subgrade stratum;
b. installation of side or mitre drains, if not already required to have been installed;
c. placing free draining crushed rock (e.g. spalls, 75/100mm clean rock, with or without geofabric);
d. stabilising the subgrade with cement or lime; or
e. stabilising the pavement material with cement or lime.

Note 9.4.5A: The Consulting Engineer is to provide details of the remedial treatment, and confirmation of its success, with all other pavement test results prior to the preseal inspection.

Division 5 Preseal Inspections

9.5.1 Pavement Compliance Testing

Note 9.5.1A:
1. The preseal inspections are to ensure that the pavement material has been placed and compacted in accordance with the pavement design, that sufficient depth has been allowed for the placement of the required seal thickness, and to a profile enabling the correct crossfall to be achieved.
2. The preseal inspection by the Local Government is limited to a visual and load test, with the load test using machinery/plant supplied by the Developer's Contractor.

(1) The Consulting Engineer is to arrange for the appropriate compliance testing of the compacted pavement material in accordance with the requirements of this division, Part 1, division 2 and Part 7 of this Planning

Scheme Policy.

(2) Compaction and pavement material property test results are to be provided prior to the preseal inspection.

(3) Advice of any remedial treatment directed by the Consulting Engineer is to be included with any failed test results for any pavement layers or pavement materials.

Material Quality Compliance Tests

(4) One complete set of pavement material quality compliance tests is to be made for each project, unless there is a change in source of supply or additional testing is required by the Local Government and provided prior to the pre-seal inspection.

(5) Quality compliance testing is to be carried out by an authorised registered NATA laboratory.

(6) A certificate is to be prepared showing results of testing in accordance with each of the tests listed in Appendix 3.2.

Quality Assurance Testing

(7) The date and time of the sampling is to be recorded.

(8) The four (4) day Soaked CBR, fines quality and particle size distribution test is to be carried out at the rate of one (1) test per 500m3 of material of each class for each parameter.

(9) Additional testing of fines quality and tests of Dry Density and of moisture content from material in place in the pavement may be requested by the Local Government at any time.

(10) Grading analysis is to be submitted in graphical or tabulated form.

Non-Compliance with Material Requirements

(11) The responsibility for maintenance of acceptable material standards rests with the Consulting Engineer and the nominated contractor.

(12) Compliance of the pavement materials is to be covered by the Engineers certification for the adequacy of the works.

(13) Materials submitted for approval but not complying in full with the relevant specification requirements may be accepted or rejected at the discretion of the Local Government.

Pavement Depth Verification

(14) Pavement depth verification is to be carried out in accordance with section 7.4.3 of this Planning Scheme Policy.

9.5.2 Visual Test

(1) The Visual Test requires that:
a. The pavement surface be even and have an acceptable crossfall (nominally 3%).

Note 9.5.2A: Stringlines, tape and necessary personnel are to be arranged by the Consulting Engineer.

b. Sufficient depth is available to place the required thickness of seal.
c. The surface be clean, coarse, tight, and stony.

Note 9.5.2B:
1. The surface should be power broomed beforehand so that the true surface is visible.
2. The surface should not be excessively wet.

9.5.3 Load Test

Note 9.5.3A:
1. Proof loading is normally:

a. required to check for any areas of the pavement which might show signs of excessive deflection; and
b. uses the same procedure as for subgrade inspections (refer section 9.4.3).
2. Sections detected in this test may indicate a weakness in the underlying pavement materials or a weak sub-base and the consultant is to ensure appropriate remedial works are undertaken.

9.5.4 Pavement Compaction Testing

(1) Field density testing is to be carried out at the frequency nominated in section 7.4.2 of this Planning Scheme Policy.

(2) The minimum acceptable density is 95% Modified Maximum Dry Density and this is to be achieved at or near to the Optimum Moisture Content.

9.5.5 Remedial Works

(1) Pavements that are deemed to have failed any of the tests outlined in this Division 5 will require remedial treatments.

(2) These remedial treatments may include, but are not limited to, the following—
a. excavation of pavement (and subgrade) to remove soft material and replace with suitable material;
b. the tyne up and recompaction of materials; or
c. adjusting the moisture content.

Note 9.5.5A: The Consulting Engineer is to provide details of remedial treatment, and confirmation of its success, together with any outstanding pavement test results prior to the "On Maintenance" inspection.

Division 6 Concrete Testing

9.6.1 General

(1) Prior to the "On Maintenance" inspection being carried out, all available concrete test results are to be submitted to the Local Government.

(2) The minimum requirement is for all seven (7) day test results to be available.

(3) All outstanding test results (28 day tests) are to be submitted prior to the Maintenance Period.

(4) Tests are to be carried out as set out in Appendix 3.3.

Note 9.6.1A: For structural elements such as bridges, retaining walls, cast insitu box culverts, etc., full design strength is to be obtained prior to "On Maintenance" as the structures will be expected to be put into service following acceptance of the works.

Division 7 Landscape Pre-Planting

9.7.1 Inspection

(1) The landscape supervisor is to organise a pre-planting inspection of all planting stock equivalent to a 100 litre bag size or greater.

Division 8 On Maintenance Inspection Procedures

9.8.1 General

Note 9.8.1A:
1. The purpose of the "On Maintenance" inspection is to ensure that the development works have been completed in accordance with the approved Engineering or Landscaping Plans, the conditions of development approval and that the appropriate standards of construction methods and materials have been used.
2. The inspected works are put on trial for the minimum periods specified in Part 10 of this Planning Scheme Policy.
3. Longer maintenance periods may be required for specific items, where problems have been encountered or where non-standard methods or materials have been used.
4. Consultants are to complete a checklist to confirm that critical aspects of the work have been inspected and completed to a standard appropriate for acceptance by the Local Government.
5. The need for a detailed "On Maintenance" inspection by the Local Government representatives in most cases will be required. Any change to this

process will be at the discretion of the Local Government.

(1) In addition to the pre-inspection checklist, the consultant is to furnish a formal Consulting Engineer's Certificate (on the consultant's letterhead) for the works, which is to be in a form similar to that shown in Appendix 3.1.

9.8.2 Pre-Inspection Checklist

(1) The pre-inspection checklist is to be in the form given in Appendix 3.4 advising that all works as per the checklist have been completed and inspected to the satisfaction of the Consulting Engineer.

(2) The checklist is to be forwarded to the Local Government prior to the requested On Maintenance inspection date.

(3) The Local Government inspection will not be carried out if this checklist has not been received from the Consultant.

(4) If more than two (2) items on the checklist (items not of a minor nature) are found to be incorrect and the site is not ready, the inspection may be immediately cancelled at the discretion of the Local Government's representative.

9.8.3 Inspection

(1) The need for a detailed inspection in most cases will be required. Any change to this process is to be at the discretion of the Local Government.

(2) The on-site inspection is to be attended by the Consulting Engineer, the Civil Contractor(s) and the Local Government representative(s).

Note 9.8.3A:

1. Each person will be required to provide their own safety equipment for the inspection of subsurface structures, e.g. helmet, boots.
2. Any need for specialised equipment should be pre-arranged by the Consulting Engineer with the contractor in accordance with the requirements of the Workplace Health and Safety Act.
3. The Consulting Engineer's attention is drawn to the requirements of the *Workplace Health and Safety Act*, in particular, where the pipe drainage system is to be subjected to a detailed inspection, i.e. entry into confined spaces such as gully pits and manholes.
4. It is the Principal Contractor's responsibility to ensure the requirements of the Act are satisfied.

9.8.4 Non-Conforming Inspection

(1) If the development fails to satisfy the requirements of the inspection as outlined in section 9.8.2, other than for minor defects, the Consulting Engineer is to be so advised.

(2) When the defects have been remedied, the Consulting Engineer is to arrange another inspection.

9.8.5 Post Compliance Action

(1) The Consulting Engineer is to forward to the Local Government the following information prior to formal acceptance of the works "On Maintenance":

a. Letter confirming satisfactory completion of the On Maintenance inspection and requesting that the maintenance period commence from the date of inspection;
b. Certification by the Consulting Engineer that the works have been completed in accordance with the approved Design and Specifications;
c. All outstanding test data and measurements of asphalt quality;
d. "As Constructed" information is to be submitted in accordance with section 1(31) 'Infrastructure As Construction Submission' of Planning Scheme Policy 2 — Information Local Government May Request;
e. Notification of the contract amount and maintenance security amount (refer Section 10.1.3 (7), and how it is to be handled, i.e. reduction of existing bond, cash payments, or bank guarantee lodged with the Local Government;
f. Payment of all outstanding monies pertaining to any works undertaken by the Local Government on the developer's behalf;
g. Payment of any outstanding Fees and Permits i.e. Road Opening Permit;
h. Copies of written clearance for works carried out on land under other ownership if applicable; and
i. Any other relevant documentation as may be required by the Local Government.

Note 9.8.5A: A list of items recorded at the On Maintenance inspection for further attention shall be included.

(2) The Landscape Consultant is to forward to the Local Government the following information prior to formal acceptance of the landscape or bushland rehabilitation works "On Maintenance":

a. Letter confirming satisfactory completion of the On Maintenance inspection and requesting that the maintenance period commence from the date of inspection.
b. Certification by the Landscape Consultant that the works have been completed in accordance with the approved Design and Specifications.
c. All outstanding rehabilitation monthly and chemical use logs and photographic monitoring.
d. Notification of the contract amount and maintenance security amount and how it is to be handled, i.e. reduction of existing bond, cash payments, or bank guarantee lodged with the Local Government.

Note 9.8.5B: A list of items recorded at the On Maintenance inspection for further attention shall be included.

Note 9.8.5C:

1. Formal acceptance of the works On Maintenance will be in the form of a letter from the Local Government to the applicant.
2. The letter will confirm the On Maintenance date and list the defects requiring rectification during the maintenance period, and confirm how the maintenance security is to be handled.

Division 9 Maintenance Period

9.9.1 General

(1) During the maintenance period, responsibility and liability for the maintenance and rectification of defects of materials and works, lies with the developer or consultant, not the Local Government (unless the work may be directly related to Local Government activities). To remove any doubt, damage as a result of normal operational of the infrastructure will be rectified by the Local Government.

Division 10Off Maintenance Inspection

9.10.1 General

Note 9.10.1A:

1. The purpose of the "Off Maintenance" inspection is to ensure that the constructed works have performed satisfactorily during the maintenance period and that omissions, defects, and damage (other than what would occur as part of the normal operation of the infrastructure) have been rectified.
2. If this has been achieved, then the Consulting Engineer and Developer may be relieved of any further responsibility regarding future maintenance of the works and the works are accepted by the Local Government.

(1) The Consulting Engineer is to remain liable for all works in relation to certificates attested to by the Consultant.

(2) The Local Government retains the right to call upon the Consulting Engineer to rectify any works which have been found not to comply with the certificates received by the Local Government.

9.10.2 Inspection

(1) An inspection, when requested by the Consulting Engineer, will generally be undertaken within ten (10) working days at a mutually agreed time.

(2) All areas inspected at the On Maintenance stage are to be re-inspected with special emphasis placed on any unsatisfactory points noted during the On Maintenance inspection or any points that have been brought to the Local Government's attention during the maintenance period.

(3) Any matters outstanding at the time of this inspection will constitute an incomplete work and such works will not be accepted by the Local Government.

9.10.3 Non-Compliance Inspection

(1) All unsatisfactory or outstanding work is to be rectified prior to the consultant arranging a second inspection.

9.10.4 Post Compliance Action

(1) The Consulting Engineer is to forward a letter to the Local Government requesting that the:

a. development be taken Off Maintenance; and
b. maintenance security and any other bond monies be released.

Note 9.10.4A:

1. Formal acceptance Off Maintenance will be by a letter from the Local Government to the applicant confirming that the relevant works have been accepted by the Local Government.
2. The letter will also indicate that the maintenance security deposit is to be released (unless specified to the contrary by the consultant).
3. At this time the relevant works formally become a Local Government asset that is maintained by the Local Government.

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