

# **NZ Roadmarkers Federation**

## **Contract Development Checklist**

**For**

### **METHOD BASED PAVEMENT MARKING CONTRACTS**

This document describes the items relating to roadmarking that should be addressed during the preparation of Method Based Pavement Marking Contract Documents. The elements covered are those that are critical to effective contract management.

The checklist is intended for people involved in the preparation of Local Authority Contracts. The checklist is by no means exhaustive and the Contract Supervisor should add items based on personal experience and specific contract requirements.

The aims of this checklist are to are to limit the risks / liabilities to the Client and Contractor with regard to:

- the standard of workmanship,
- health & safety of contractors and others,
- control of costs due to reworks or variations, and
- resourcing to ensure that the contractor meets specified minimum standards within the agreed time-frame and cost.

The application of pavement markings has become increasingly specialised with regard to materials, processes and specified requirements. A variety of sources are available to the Principal and Engineer for this specialist knowledge and experience. The NZ Roadmarkers Federation Inc. is engaged in:

- Facilitating the gaining of knowledge and experience in pavement marking through NZQA Unit Standards and National Certificates
- Providing vehicles for effect contract management with checklists such as this one
- Providing links to suppliers of specialist skills

## **ROAD CONTROLLING AUTHORITY EXPECTATIONS**

As Principal you are looking for a Contractor (Tenderer) who can:

1. Carry out work that will contribute positively to your providing a safe and efficient roading network, while minimising your costs.
2. Implement proactive strategies to provide services in the most timely manner
3. Work closely with you to develop and implement innovative pavement marking methods and systems that enhance the network performance both in user requirements and cost effectiveness.

## **DESCRIPTION OF CONTRACT**

The roading network and environment for which you are responsible has a number of possibly unique characteristics that have developed with time. In addition, the aims and wishes of the Council and Community impact on the work to be carried out.

For this reason, it is valuable to spend some time reviewing the existing contract to identify any opportunities for improvement and in particular to ensure that the contract is a fair and correct interpretation of the requirements.

Questions that should be asked would include, but be not limited to:

- What is the term of contract?
- When do you want marking to occur?
- Do you have preferences in materials used?
- What relationships are you seeking with Contractor?
- What upgrades are proposed or desired?
- What special conditions do you have?
- What problems have you encountered previously?
- Who will install pavement markings on reseals and new works?

## PURPOSE

The purpose of this checklist is to provide a basis for the preparation of method based contracts by Local Authority Contract Development Teams for the supply of pavement marking services.

It is aimed at limiting the risks / liabilities to both the Client and Contractor with regard to:

1. the standard of workmanship,
2. health & safety of contractors and others,
3. control of costs due to reworks or variations, and
4. resourcing to ensure that the contractor meets specified minimum standards within the agreed time-frame and cost.

The use of the checklist provides grounds for raising Principal / Owner confidence that the Contract document generated enables fair and accurate contract management through the use of a contract specific Contract Quality Plan. The contract would require that the successful tenderer on acceptance of the tender would create such Contract Quality Plan.

The aim of this checklist is to facilitate the formatting and review of the critical components to ensure that the Contract document generated enables a fair and accurate contract on acceptance of the tender.

## SCOPE

The checklist covers the contractual requirements relating to pavement marking operations. The activities covered are:

1. Description / Scope of Contract Works
2. Contract Quality Plan, including related quality system processes and responses
3. General Requirements
4. Contract Specifications
5. Contract Programme
6. Reports and Reporting Mechanisms
7. Health & Safety, including Traffic Management
8. Environmental Management
9. Unscheduled Works and Variations
10. Pavement Marking Items
11. Payment

## REFERENCES

Lists of documents that require consideration included in the appendices. The Contract Development Team should also add to these lists any additional material relating to special materials and / or special conditions.

The Documents referred to should be those defined in the contract documents.

Transit New Zealand supply the latest versions of their Specifications on their Webpages [www.transit.govt.nz](http://www.transit.govt.nz)

Other documents are available through Standards New Zealand.

## REVIEW AND AMENDMENT

This document has been developed by Quality Surveillance Ltd (QSL) for the New Zealand Roadmarkers Federation Inc (NZRF).

All information contained in it has been prepared in good faith by QSL and the NZRF and is, to the best of their knowledge, correct and complete. While every care has been taken in the preparation of the information provided, no warranty is given by either QSL or the NZRF as to the correctness of the information herein and no liabilities accepted for any statement or opinion, nor for any error or omission.

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## Cover page (PROFORMA)

### 1. Contract Number and Name – Contract Documents

1.1. Contractor: \_\_\_\_\_

1.2. Address: \_\_\_\_\_

1.3. Contract Number(s): \_\_\_\_\_

1.4. Engineer: \_\_\_\_\_

1.5. Address \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

#### Contact Details:

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

Email: \_\_\_\_\_

Tenders for this contract close at (Time) on the (Date) with:

Tenders Secretary

Address

A pre-tendering meeting will be held at (location) on (Day) (Month) (Year) starting at (Time) am/pm, refer Operational Requirements Section of this document.

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Contract Cover Sheet

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Project Specification (Pavement Marking)

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This document was:

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1. TENDER DOCUMENTS		
<i>It is only through the tender submission that contractors are able to demonstrate both their understanding of your requirements and their ability to provide the necessary resources. It is for this reason that tender documents need to be structured and developed to enable the Tenderer and the Tender Evaluation Team to communicate clearly and effectively.</i>	<b>Exists Yes/No</b>	<b>Contract Clause</b>
<p><b>1.1. TENDERS INFORMATION</b></p> <p><b>1.1.1. Tender Format</b> Is the document structured such that each Schedule Item relates to the same correspondingly numbered:</p> <ul style="list-style-type: none"> <li>• Basis of Payment Clause?</li> <li>• Project Specification Clause?</li> <li>• Appendices?</li> </ul> <p><i>Refer Contents Page</i></p> <p><b>1.1.2. Contract Specification</b> Does description (Project Specification) include:</p> <ul style="list-style-type: none"> <li>• Term?</li> <li>• Remarketing?</li> <li>• Installation of new pavement markings?</li> <li>• Distance / Extent?</li> <li>• Location?</li> <li>• Subcontract to resealing contractor(s)?</li> </ul> <p>Does description in Operational Requirements Section include:</p> <ul style="list-style-type: none"> <li>• Detailed description of network?</li> <li>• Specific tendering requirements – (in particular meetings)?</li> <li>• Specific operational requirements applying to your network environment?</li> </ul> <p><b>1.1.3. Tender Submission</b> Is requirement for three-envelope submission clear? (i.e. 1 – Proposal Excluding Price, 2 – Price, 3 Contains envelopes 1 &amp; 2)</p> <p>Are address requirements clear?</p> <p>Is form of submission clear, i.e. are Fax Tenders acceptable?</p> <p><b>1.1.4. Tender Queries</b> Does Tender Queries Section include:</p> <ul style="list-style-type: none"> <li>• Full Contact Details?</li> <li>• Requirement for queries to be in writing?</li> <li>• Last date for Queries (normally 3 days before closing date)?</li> <li>• Mechanisms for advising all Tenderers of Notices to Tenderers</li> </ul>		

<p><b>1.1.5. Tender Evaluation</b> Is Tender Evaluation Method clear? <i>Tenders are usually evaluated using Weighted Attribute Method, refer Transfund Competitive Pricing Procedures Manual. Refer to 1.3.1 below.</i></p> <p>Is reference made to Section 2.7 of the CPP Manual?</p> <p>How are tagged tenders to be evaluated? <i>Tagged or Alternative Tenders are evaluated using Section 2.8 of CPP Manual.</i></p> <p>Is tender evaluation to be carried out using NZRF:CPPC001 NZRF Competitive Pricing Procedures Tender Evaluation Checklist?</p> <p><b>1.1.6. Quality Assurance</b> Is TNZ P/12 or TNZ P/22 requirement clear?</p> <p><b>1.1.7. Contract Surveillance</b> Is there a programme for:</p> <ul style="list-style-type: none"> <li>• Engineers Contract Surveillance activities?</li> <li>• Contractor self-audits?</li> <li>• Independent (Third Party) audits, including Certification Bodies?</li> <li>• Legislative Organisations / Bodies?</li> </ul> <p><i>The NZRF Site Review Checklist, NZRF:CMC001 is appropriate for this and is available on the NZRF Webpages.</i></p> <p><b>1.1.8. Network Information</b> Availability of Network information clear? Does it include:</p> <ul style="list-style-type: none"> <li>• Inventories for all markings?</li> <li>• Marking materials previously applied (and when)?</li> <li>• Condition of Markings / Expected Life?</li> <li>• Traffic Counts</li> <li>• Designation of Roads and Levels in accordance with Code of Practice for Temporary Traffic Management</li> <li>• RAMM if available?</li> <li>• RCA Forward Work Programme?</li> <li>• Hazards and Emergency Procedures?</li> </ul> <p><i>Refer Clause 16 of TNZ P/12 or TNZ P/22, Clause 7 of P/20 and HSE Act 1992</i></p> <p><b>1.1.9. Budgeted Values</b> If budgeted values have been set, are they provided?</p> <p><b>1.1.10. Privacy Act</b> Requirement for contacts with Referees and others provided for?</p>		
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<p><b>1.2. CONDITIONS OF CONTRACT</b></p> <p>Is latest version of NZS 3910 – Conditions of Contract for Building and Civil Engineering Construction referenced?</p> <p>If NZS 3910 conditions are varied for local environment, are they:</p> <ul style="list-style-type: none"> <li>• Specifically identified as changes to NZS 3910 and in Special Conditions Section of Tender</li> <li>• Contractually robust?</li> <li>• Consistent with aims of all referenced Specifications?</li> </ul> <p>Is NZS 4224: 1983 – Code of Practice for measurement of Civil engineering quantities referenced?</p>		
<p><b>1.3. NON-PRICE ATTRIBUTES</b></p> <p><b>1.3.1. Attribute Weighting</b> Are all the Attribute Weightings provided:</p> <ol style="list-style-type: none"> <li>1. Relevant Experience?</li> <li>2. Track Record?</li> <li>3. Technical Skills?</li> <li>4. Resources?</li> <li>5. Management Skills?</li> <li>6. Methodology?</li> <li>7. Price?</li> </ol> <p><i>Note the requirement of Clause 2.4.2 of Transfund CPP Manual</i></p> <p><b>1.3.2. Relevant Experience</b> Are requirements stated for:</p> <ol style="list-style-type: none"> <li>1. Details of five (5) projects demonstrating their experience to <u>complete</u> Contract Works?</li> <li>2. List of all subcontractors proposed for works exceeding 5%, along with evidence of their experience</li> </ol> <p>Information required includes:</p> <ol style="list-style-type: none"> <li>1. Name, location, value and year(s) each project completed?</li> <li>2. Engineer’s name, company and contact phone numbers?</li> <li>3. Relevance to the Contract Works?</li> </ol> <p><b>1.3.3. Track Record</b> Requirements stated for details of five (5) projects that demonstrate their (and their subcontractor’s) ability to complete the project:</p> <ol style="list-style-type: none"> <li>1. On time?</li> <li>2. To specified performance targets?</li> </ol> <p>Information required includes:</p> <ol style="list-style-type: none"> <li>1. Name, location, value and year(s) each project completed?</li> <li>2. Engineer’s name, company and contact phone numbers?</li> <li>3. Relevance to the Contract Works?</li> <li>4. Whether project was completed on time?</li> <li>5. Whether project was completed to specified performance targets?</li> </ol>		

<p><b>1.3.4. Technical Skills</b> Requirement for nominating personnel and their key technical skills includes:</p> <ul style="list-style-type: none"> <li>• Contractors Representative?</li> <li>• Contract Manager?</li> <li>• Quality Manager?</li> <li>• Traffic and Safety Manager?</li> <li>• Site Traffic Management Supervisors (STMS's) and Approvals?</li> <li>• Key Operational Staff and ITO Qualifications</li> </ul> <p><i>Note: Qualifications and training completed to the relevant Industry Training Organisation should be recognised. Refer E2 of Transfund CPP Manual</i></p> <p><b>1.3.5. Resources</b> Requirement for details of resources includes:</p> <ul style="list-style-type: none"> <li>• Labour (and includes any industry training)?</li> <li>• Plant?</li> <li>• Materials?</li> <li>• Facilities?</li> <li>• Contract Management Systems?</li> <li>• Programming &amp; Reporting Systems?</li> <li>• Quality Management Systems?</li> <li>• Health &amp; Safety Systems</li> <li>• Environmental Management Systems?</li> </ul> <p><b>1.3.6. Management Skills</b> Requirement for details of management skills includes:</p> <ul style="list-style-type: none"> <li>• Attributes and management skills of <u>all</u> nominated personnel (including ITO Qualifications)?</li> <li>• Lines of communication?</li> <li>• Delegation of duties and authorities?</li> <li>• How systems will be implemented?</li> <li>• Training and management of staff at each level?</li> <li>• Confirmation of accreditation of quality system and compliance with TQS2 and inclusion of technical requirements of NZRF QAP002.</li> </ul> <p><i>Note: Qualifications and training completed to the relevant Industry Training Organisation should be recognised. Refer E3 of Transfund CPP Manual</i></p> <p><b>1.3.7. Current Commitments</b> Requirement for listing of current commitments includes:</p> <ul style="list-style-type: none"> <li>• Contract Name &amp; Number?</li> <li>• Engineer?</li> <li>• Annual value of work?</li> <li>• Completion dates?</li> <li>• Materials being used?</li> <li>• Any leased or subcontracted plant or equipment?</li> </ul>		
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<p><b>1.3.8. Methodology</b>                  Requirement for clear description of how the contractor proposes to complete the project on time and to the specified standards included?</p> <p>Do requirements include:</p> <ul style="list-style-type: none"> <li>• Materials?</li> <li>• Resources?</li> <li>• Supervision?</li> <li>• Communication?</li> <li>• Programming?</li> <li>• Traffic Management &amp; Public Safety?</li> <li>• Pavement Marking Process Control?</li> <li>• Applicator Testing &amp; Certification?</li> <li>• Quality Assurance?</li> <li>• Health &amp; Safety?</li> <li>• Environmental Management?</li> <li>• Progress Monitoring?</li> <li>• Recording?</li> <li>• Reporting?</li> </ul>		
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2. SCHEDULE OF PRICES SECTION		
	Exists Yes/No	Contract Clause
<p><i>It is through the pricing of the scheduled works that contractors demonstrate both their understanding of your requirements and projected project price arrived at on the basis the proposed materials and expected quantities of marking. It is for this reason that scheduled items are as accurate as possible and any possible ambiguities are clearly identified to enable the Tenderer and the Tender Evaluation Team to communicate clearly and effectively.</i></p>		
<p><b>2.1. MANAGEMENT</b></p> <p>Does the Management section of the Schedule of Markings include pricing requirement for:</p> <ol style="list-style-type: none"> <li>1. Contract Management Review? <i>(each)</i></li> <li>2. Preparation of Contract Quality Plan? <i>(Lump Sum)</i></li> <li>3. Management of Contract Quality Plan? <i>(per remark)</i></li> <li>4. Monthly Reports? <i>(each)</i></li> <li>5. Preparation of Traffic Management Plan? <i>(Lump Sum)</i></li> <li>6. Management of Traffic Management Plan? <i>(daily rate)</i></li> <li>7. Additional Traffic Management – Provisional? <i>(daily rate)</i></li> <li>8. Inventory of Marking? <i>(Lump Sum)</i></li> </ol> <p>The following items need to be itemised as being included in the tendered pavement marking rates:</p> <ul style="list-style-type: none"> <li>• General Requirements</li> <li>• Contractors Programme</li> <li>• Quality Control Activities</li> <li>• Daily Reports</li> <li>• Final and Maintenance Reporting</li> <li>• Traffic Control</li> <li>• Environmental Management</li> </ul>		
<p><b>2.2. TRAFFIC MANAGEMENT</b></p> <p>Which Levels of Traffic Management apply:</p> <p>Level 1?</p> <p>Level 2?</p> <p>Level 3?</p> <p>Local Roads Supplement?</p> <p>For each of the four Levels of Traffic Management in accordance with the Code of Practice for Temporary Traffic Management are the following itemised:</p> <p>Standard Remark? <i>(each)</i></p> <p>Non-Routine Marking? <i>(establishment &amp; Provisional Sum PS)</i></p> <p>Alternative Products? <i>(% over and PS)</i></p> <p>Line Removal? <i>(m<sup>2</sup>)</i></p> <p>Urgent Work? <i>(% over and PS)</i></p> <p>Pavement Marking Inventory? <i>(each)</i></p>		

<p><b>2.3. STANDARD P/12 or P/22 REMARK</b></p> <p>Does schedule allow for fair and equitable pricing?</p> <p>Are items described in accordance with MOTSAM Volume 2 or similar?</p> <p>Are additional items such as Kerb Spray included?</p>		
<p><b>2.4. TENDER SUMMARY</b></p> <p>Does Tender Summary Section facilitate clear communication of summarised prices?</p>		

3. BASIS OF PAYMENT SECTION		
	Exists Yes/No	Contract Clause
<p><i>It is only through the tender submission that contractors are able to demonstrate both their understanding of your policy regarding payments. It is for this reason that the basis of payment needs to be clarified such that the Tenderer and the Tender Evaluation Team have a clear understanding of what and what won't be paid for. For remark type contracts, reference needs to be made to Appendix C7 of NZS 3910</i></p>		
<p><b>3.1. MEASUREMENT</b> Statement included that quantities are based on agreed Programme?</p>		
<p><b>3.2. ENGINEERS ASSESSMENT</b> Has a statement been included that details actions / non payment where Engineer's reviews and inspections show:</p> <ul style="list-style-type: none"> <li>a) Quality Assurance Records are incomplete or,</li> <li>b) Aspects of works are non-complying?</li> </ul> <p>Statement includes % paid in relation to percentage of non-complying work?</p> <p>Statement includes recovery of Engineers Costs at defined rates?</p>		
<p><b>3.3. VARIATIONS</b> Is there a statement on No payment which includes that for variations in work package not processed in accordance with NZ 3910, i.e.:</p> <ol style="list-style-type: none"> <li>1. Not agreed with the Engineer?</li> <li>2. Not on an agreed Programme?</li> </ol>		
<p><b>3.4. PRICE ESCALATION</b> Has the issue of cost escalation been dealt with?</p> <p>Is this in accordance with Transfund CPP Manual and associated policies?</p>		



4. PROJECT SPECIFICATION SECTION		
<i>It is only through the tender submission that contractors are able to demonstrate both their understanding of your requirements and their ability to provide the necessary resources. It is for this reason that tender documents need to be structured and developed to enable the Tenderer and the Tender Evaluation Team to communicate clearly and effectively.</i>	<b>Exists Yes/No</b>	<b>Contract Clause</b>
<p><b>4.1. CONTRACT WORKS</b></p> <p><b>4.1.1. Contracts Works Description</b> Description includes:</p> <ol style="list-style-type: none"> <li>1) Remarketing of existing markings?</li> <li>2) Installation of new pavement markings?</li> <li>3) Statement referencing Operational Requirements Section?</li> <li>4) Maintenance of Inventory of Markings?</li> <li>5) Measurement and Reporting of Performance?</li> <li>6) Reseals?</li> </ol> <p><b>4.1.2. Extent</b> Description includes:</p> <ul style="list-style-type: none"> <li>• Implementation of Contract Quality Plan?</li> <li>• Provision of all labour, plant and materials?</li> </ul> <p>Description excludes pavement marking relating to: Pavement rehabilitation, reconstruction and resurfacing?</p> <p><b>4.1.3. Location</b> Description includes:</p> <ul style="list-style-type: none"> <li>• All markings within RCA Network?</li> <li>• Additional road reserves as applicable?</li> <li>• Treatment of Boundary Roads with other RCA's</li> <li>• Treatment of State Highways?</li> <li>• Treatment of Railway Crossings and similar Utilities?</li> <li>• Addition of new roads within the Network?</li> </ul> <p><b>4.1.4. Obligations</b> Obligations clearly defined for:</p> <ol style="list-style-type: none"> <li>1) Contractor</li> <li>2) Engineer</li> </ol> <p><i>Refer to NZS 3910 and Transit QG Notes.</i></p>		

<p><b>4.1.5. Contract Specifications</b> The Specifications and Codes of Practice relating directly to the performance of the contract are defined?</p> <p><i>TNZ P/12, TNZ P/22 and TNZ P/14 in conjunction with Manual of Traffic Signs and Markings (MOTSAM) Volume 2 prescribe the normal pavement marking requirements, and as such should be referenced and used in their entirety wherever possible.</i></p> <p>Specifications are: Latest version?, or Otherwise defined / controlled version?</p> <p><i>Refer to appendices.</i></p> <p>Statement included that ensures that Specifications are the latest editions and include all amendments at time of tender?</p> <p>Statement that it is Contractors responsibility to hold and make reference to their own set of the Specifications, Codes and associated legislation?</p> <p><b>4.1.6. Performance Reviews</b> Description includes:</p> <ul style="list-style-type: none"> <li>• Aim of reviews</li> <li>• Principal's requirements</li> <li>• Contract Management Reviews</li> <li>• Performance Indicators</li> <li>• Reporting methods</li> </ul> <p><b>4.1.7. Area Completion</b> Item describes requirements for:</p> <ul style="list-style-type: none"> <li>• Percentage completion of Contract Works by Area or Ward?</li> <li>• Invoicing arrangements?</li> </ul> <p><b>4.1.8. Contract Completion</b> Item describes requirements for:</p> <ul style="list-style-type: none"> <li>• Completion of Contract Works?</li> <li>• Provision of evidence of expected life remaining?</li> </ul> <p><i>Within 7 days Contractor must advise Engineer that works are complete and request a Certificate of Practical Completion.</i></p> <p><b>4.1.9. Completion of Defects Liability Period</b> Description includes:</p> <ul style="list-style-type: none"> <li>• Requirements for completion of Defects Liability Period?</li> </ul>		
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<p><b>4.2. CONTRACT QUALITY PLAN</b></p> <p><b>4.2.1. Contract Quality Plan Development</b> Requirement for Contract Quality Plan?</p> <p>Contents required include but not limited to compliance with TQS2</p> <p><b>4.2.2. Response Times</b> The following are required:</p> <ol style="list-style-type: none"> <li>1. Draft CQP within 3 weeks (or 10 working days?) of Date of Acceptance of Tender?</li> <li>2. Final CQP within 1 week of Engineers review</li> <li>3. Annual Review on anniversary of Date of Acceptance of Tender</li> </ol>		
<p><b>4.3. GENERAL REQUIREMENTS</b></p> <p><b>4.3.1. Contractors Personnel</b> Requirement that Contractor confirms names and experience of key personnel nominated in tender documents?</p> <p>Requirement that Contractor confirms names and experience of nominated Subcontractors?</p> <p><b>4.3.2. Communications</b> Requirements for communications systems include but not limited to:</p> <ul style="list-style-type: none"> <li>• Staffed telephone during stated business hours?</li> <li>• Facsimile service?</li> <li>• An effective two-way communication between Base and Work Team (radiotelephone or cellular phone)?</li> <li>• After hours contacts?</li> <li>• Emergency Contacts and related systems?</li> </ul> <p>Requirements include system for receiving and logging all public complaints?</p> <p>Complaints system has defined response times?</p> <p><b>4.3.3. Meetings</b> Requirements for meetings include:</p> <ul style="list-style-type: none"> <li>• Attendance of Site Representatives / Nominated Personnel?</li> <li>• Keeping of minutes by Contractor and issued to all parties within one (1) week of the meeting?</li> </ul> <p>Schedule of meetings includes but not limited to:</p> <ul style="list-style-type: none"> <li>• Nomination of Venue(s)</li> <li>• Meeting with Engineer before the Date of Occupancy of Site?</li> <li>• Monthly (or otherwise specified) meetings with Engineer?</li> <li>• Meetings with Engineer before each Remark?</li> <li>• Meeting with Engineer on completion of Contract?</li> </ul>		

<p><b>4.3.4. Other Contractors</b> Statement on other contractors regarding:</p> <ul style="list-style-type: none"> <li>• Work programmes</li> <li>• Access to site(s)</li> </ul>		
<p><b>4.4. CONTRACTORS PROGRAMMES</b></p> <p><b>4.4.1. Preparation of Programmes</b> Statement of requirements on format and content of programmes to include:</p> <ul style="list-style-type: none"> <li>• Bar chart (or similar) showing date of remarking by location for each Separable Portion?</li> <li>• Allowances for inclement weather?</li> <li>• Any relevant constraint?</li> <li>• Provision of Projected Monthly Expenditure?</li> </ul> <p><b>4.4.2. Review of Programmes</b> Statement requiring Engineer review and mutual acceptance of Programme (including Subcontract Works) within response time?</p> <p><b>4.4.3. Response Times</b> Response times relating to Contractors Programme are:</p> <ul style="list-style-type: none"> <li>• Initial Programme      With CQP?</li> <li>• Subsequent                Within Monthly Report?</li> <li>• Engineers Review        Within one (1) week of date of receipt?</li> </ul>		
<p><b>4.5. CONTRACTORS REPORTS</b></p> <p><b>4.5.1. Types of Reports</b> Requirements stated for the following:</p> <ul style="list-style-type: none"> <li>• Daily Reports?</li> <li>• Weekly Reports?</li> <li>• Monthly Reports?</li> <li>• Assessment / Review Reports?</li> <li>• Maintenance Reports?</li> <li>• Final Report?</li> </ul> <p><b>4.5.2. Definitions</b> Statement included defining:</p> <ul style="list-style-type: none"> <li>• Inclement weather in relation to workday?</li> </ul> <p><b>4.5.3. Daily Reports</b> Requirements for Daily Report include: That Report not until work commences, or if no work is programmed? Work to be completed that day? Work completed the previous day? Work proposed for the following day? Time lost to inclement weather?</p>		

<p><b>4.5.4. Monthly Reports</b>                  Requirements for Monthly Report include:                  1. Financial Report, including Monthly Progress Claim?                  2. Updated Programme?                  3. Updated Performance Indicators?</p> <p><b>4.5.5. Response Times</b>                  Response times required for reports state:</p> <ul style="list-style-type: none"> <li>• Daily Report By 9:00am of each programmed day?</li> <li>• Weekly Report By 9:00am of the First Work day of the week</li> <li>• Monthly Report 9:00am on the 3<sup>rd</sup> calendar day of the month following (if the 3<sup>rd</sup> calendar day falls on a weekend or Public Holiday the report is to be received by the Engineer on the 1<sup>st</sup> working day following)?</li> <li>• Assessment Report Within 2 weeks of any Joint Inspection?</li> <li>• Final Report Within one week of date of issue of Certificate of Practical Completion?</li> <li>• Maintenance Report A minimum of two (2) weeks before the due date of the completion of the Period of Defects Liability?</li> <li>• Engineers Review Within two (2) weeks of the date of receipt of the Report?</li> </ul>		
<p><b>4.6. HEALTH AND SAFETY IN THE WORKPLACE AND PUBLIC SAFETY</b>  <i>The obligations of the Principal, the Contractor (Employer), any Subcontractors and their Employees are subject to the Health &amp; Safety in Employment Act 1992 and related Legislation. The importance of Hazard Identification and Control cannot be overemphasised, as the responsibilities cannot be contracted out.</i></p> <p><b>4.6.1. Council Health and Safety Plans</b>                  Organisation's Health &amp; Safety Plan current and includes all known hazards?                   Contractor advised of existence of RCA Health and Safety Plan and the requirement to comply with contents?                   Reporting mechanisms included for Accidents / Incidents?</p> <p><b>4.6.2. Hazard Identification</b>                   Contractor required to:</p> <ul style="list-style-type: none"> <li>• Formally acknowledge Hazards identified by Principal?</li> <li>• Advise Council of proposed control systems for these hazards</li> <li>• Advise Council of Hazards identified by themselves and the associated management systems?</li> </ul>		

<p><b>4.6.3. Contractor Health and Safety Plan</b> Requirement for Contractors Health &amp; Safety Plan?</p> <p>Contents required include but not limited to:</p> <ul style="list-style-type: none"> <li>• Compliance with Health &amp; Safety in Employment Act 1992 and associated legislation?</li> <li>• Compliance with Code of Practice for Temporary Traffic Management?</li> <li>• Hazard Identification and management?</li> <li>• Nomination of person responsible for compliance with HSE Act?</li> <li>• Emergency Procedures?</li> <li>• Identification of H&amp;S Induction Briefing</li> <li>• Training in safe practices?</li> <li>• Sample of Hazard Identification Forms?</li> </ul> <p><b>4.6.4. Response Times</b> The following are required:</p> <ol style="list-style-type: none"> <li>1. Draft Health &amp; Safety Plan within 2 weeks (or 10 working days?) of Date of Acceptance of Tender?</li> <li>2. Final Health &amp; Safety Plan within 3 days of Engineers review and prior to Date of Occupancy of Site?</li> <li>3. Annual Review on anniversary of Date of Acceptance of Tender?</li> <li>4. Engineers Review of TMP Within 1 week of date of receipt of the TMP?</li> </ol>		
<p><b>4.7. TRAFFIC MANAGEMENT</b></p> <p><b>4.7.1. Traffic Management Plan Development</b> Requirement for Traffic Management Plan?</p> <p>Contents required include but not limited to:</p> <ul style="list-style-type: none"> <li>• Compliance with Code of Practice for Temporary Traffic Management or Local Roads Supplement?</li> <li>• Sample sign layout diagrams for each activity, including the signing and delineation of all lane closure?</li> <li>• For both Rural and Urban work environments?</li> <li>• Detailing for work carried out as Mobile / Semi Static Operation?</li> </ul> <p><b>4.7.2. Response Times</b> The following are required:</p> <ol style="list-style-type: none"> <li>5. Draft TMP within 2 weeks (or 10 working days?) of Date of Acceptance of Tender?</li> <li>6. Final TMP within 3 days of Engineers review and prior to Date of Occupancy of Site?</li> <li>7. Annual Review on anniversary of Date of Acceptance of Tender?</li> <li>8. Site Specific TMP A minimum of one week before programmed start of work package?</li> <li>9. Engineers Review of TMP Within 1 week of date of receipt of</li> </ol>		

the TMP?		
<p><b>4.8. ENVIRONMENTAL MANAGEMENT</b></p> <p>Requirements for any resource consents necessary for compliance with Local Authority District Plans / RMA?</p> <p>Do these include requirements regarding:</p> <ul style="list-style-type: none"> <li>• Noise control?</li> <li>• Traffic disruption?</li> </ul> <p>Requirements for Emergency Procedures relating to storage, transport and handling of materials, i.e. spill kits etc?</p> <p>Requirements of notifying Engineer of all disposal sites, and prior to use, submit copies of any resource consent(s) required?</p>		
<p><b>4.9. UNSCHEDULED WORK</b></p> <p><i>Unscheduled Work is work carried out where there is no other appropriate Schedule Items.</i></p> <p>Requirements stated for:</p> <ul style="list-style-type: none"> <li>• Work Records?</li> <li>• Pricing Proposals?</li> <li>• Completion requirements?</li> <li>• Response Times?</li> </ul>		
<p><b>4.10. P/12, P/22 &amp; P/14 DELINEATION AND PAVEMENT MARKING</b></p> <p><b>4.10.1. Scope</b></p> <p>Description provided of the full scope of the work required, including but not limited to: Labour, materials, plant, cartage, paint, beads, RPM's, Traffic Control and other incidentals? Remarking? Non-routine Marking (New Work) Line Removal? Sweeping? Programme? Zones / Areas to be Repainted? Types of work to be carried out?</p> <p><b>4.10.2. Response Times</b></p> <p>Does response time requirement statement include:</p> <ul style="list-style-type: none"> <li>• Remarking – By specified programme date?</li> <li>• Inventory – Within one calendar month of completion of Area/Zone or Ward</li> <li>• Temporary removal of markings – Within 48 hours of Engineers request or identification by Contractor</li> <li>• Permanent removal of markings – Within two weeks of Engineers</li> </ul>		

<p>request.</p> <p><b>4.10.3. Selection of Treatment &amp; Method</b></p> <p>Is selection of treatment and application methods prescribed?</p> <p>Are all types and stages of work covered?</p> <p>Are appropriate specifications referred to:</p> <ul style="list-style-type: none"> <li>• Manual of Traffic Signs &amp; Markings Volume 2 for set-outs?</li> <li>• TNZ P/12 or TNZ P/22 for paint and bead application?</li> <li>• TNZ P/14 for raised pavement marker installation?</li> </ul> <p>Is liaison with Principal / Contract Supervisor required?</p> <p><b>4.10.4. Products &amp; Materials</b></p> <p>Are all products and materials clearly specified, i.e.:</p> <ul style="list-style-type: none"> <li>• Alkyd Paint?</li> <li>• Chlorinated Rubber modified Alkyd Paint?</li> <li>• Waterborne paint?</li> <li>• Thermoplastic?</li> <li>• Cold applied plastic?</li> <li>• Other marking materials?</li> <li>• Glass beads (drop-on, intermix, large size, high index)?</li> <li>• Glass faced RRPM's?</li> <li>• Plastic faced RRPM's?</li> <li>• Ceramic RPM's</li> </ul> <p>Does material have to comply with TNZ materials specifications and on TNZ Approvals lists:</p> <ul style="list-style-type: none"> <li>• Paint to TNZ M7 and M/7 Notes?</li> <li>• Long-life to M/20?</li> <li>• Does Contractor have to demonstrate expected life for the proposed long-life materials?</li> <li>• Glass beads to AS 2009?</li> <li>• RPMS to TNZ M/12 or TNZ P/22?</li> <li>• RPM Adhesive to M/13?</li> </ul> <p><i>Note: TNZ M/7 has a range of performance values for both beaded and un-beaded painted markings.</i></p> <p>What methods for Materials &amp; Handling are required for:</p> <ul style="list-style-type: none"> <li>• Dangerous Goods storage?</li> <li>• Transport of Hazardous Goods?</li> </ul> <p>Is evidence that Materials Records comply with TNZ P/12 or TNZ P/22 required?</p> <p><i>Refer Clauses 13 &amp; 15 of TNZ P/12 or TNZ P/12.</i></p>		
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<p><b>4.10.5. Programming</b> Requirement for detailed programme including:</p> <ul style="list-style-type: none"> <li>• Sequence of work with appropriate start and completion dates?</li> <li>• Plant &amp; equipment, including certified applicators and pre-heaters, to be used?</li> <li>• Appropriately skilled and experienced staff responsible for supervision?</li> <li>• Systems are used to programme work packages?</li> </ul> <p><i>Refer Clause 16 of TNZ P/12 or TNZ P/22.</i></p> <p><b>4.10.6. Hours of Work</b> Limitations regarding hours of work specified: For normal activities? For special or Residential areas? Pedestrian Crossings at Schools? Related to traffic flows and volumes? Related to noise / disruptions?</p> <p><b>4.10.7. Preparation of Road Surface</b> Recognition of responsibility for sweeping prior to:</p> <ul style="list-style-type: none"> <li>• Remarking?</li> <li>• Non-routine Marking</li> <li>• Remedial work actions?</li> </ul> <p>Process described for:</p> <ul style="list-style-type: none"> <li>• Contractor Inspections?</li> <li>• Liaison with Engineer?</li> <li>• Acceptance prior to commencement of marking?</li> </ul> <p><b>4.10.8. Application of markings</b> Appropriately certified plant to be used to apply markings:</p> <ul style="list-style-type: none"> <li>• TNZ T/8 for paint?</li> <li>• TNZ T/12 for all Long-life product?</li> </ul> <p><i>Refer Clause 6 of TNZ P/12.</i></p> <p>Requirements for application of Raised Pavement Markers to ensure:</p> <ul style="list-style-type: none"> <li>• Carried out in a safe manner?</li> </ul> <p>What system is to be used to protect markings against vehicle tracking?</p> <p>Target application rate reporting methods required for: Paint? Beads? Long Life materials? <i>Refer Clause 13 of TNZ P/12 or TNZ P/22.</i> Requirements for Materials Records and relationship to Claims for Payment and Engineer's Reviews?</p>		
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*Refer Clauses 13 and 15 of TNZ P/12.*

#### **4.10.9. Inspection & Testing**

What evidence is required that contractor understands inspection and testing requirements?

Are test plates to be used and when?

*Note: Development of Contract Quality Plan requires Specification Review. Refer TNZ TQS2*

How are acceptance criteria to be defined?

What inspection and measuring equipment is required- in particular:

- Elcometers for dry paint film thickness?
- Elcometer for Audio Tactile and thick films?
- British Pendulum Skid Resistance Tester?
- Retroreflectometer?

What liaison / reporting is required for Recertification and maintenance of TNZ T/8 Certificates? *Refer TNZ T/8*

#### **4.10.10. Non-complying and damaged markings**

Removal methods required for:

- All Non-complying markings whether identified by Contractor or Engineer?
- Markings damaged by traffic during or immediately following application?

*Refer Clause 8 and 14.2.1 of TNZ P/12 or TNZ P/22.*

Requirement for Engineer approval of both temporary and permanent removal methods?

#### **4.10.11. Existing Nonconforming Markings**

Requirements regarding procedures relating to identification and treatments of existing non-conforming markings specified?

*Refer Clauses 9.4 and 9.5 of TNZ P/12 or TNZ P/22.*

#### **4.10.12. Pavement Marking Inventories**

Requirement for Contractor involvement in:

- Inventory preparation?
- Review / Verification?
- Maintenance?

Requirements include:

- Minimum information?
- Style & Format?
- Media, i.e. electronic and or hard copy?

## Definitions and Abbreviations

Remark = A standard remark is all work associated with remarking all existing markings within the Network and includes remarking of all new and urgent works completed since the previous remark.

Non-routine Marking = is any work not completed as part of a Remark and includes new, planned and urgent marking works.

Day = Working day  
PS = Provisional Sum  
LS = Lump Sum  
M<sup>2</sup> = Square Metre  
% = Percentage  
km =Kilometre  
m =Linear metre

## Reference Documents

Land Transport NZ Competitive Pricing Procedures Manual; Volume 1, Physical Works & Professional Services

### National Standard Specifications

NZS 3910	Conditions of contract for building and civil engineering construction
NZS 4224	Code of practice for measurement of civil engineering quantities
AS/NZS ISO 9001:2000	Quality management systems - Requirements
AS 2009	Glass beads for road-marking materials

### Transit New Zealand Specifications & Related Documents

TNZ TQS2	Quality System for Road Construction, Road Maintenance and Structures Physical Works Contracts having a Normal QA Level
NZRF QAP002	Quality Assurance Programme Specifications and Guidelines (referenced by TNZ P/12 & P/22)
TNZ P/12	Specification for Pavement Marking
TNZ P/20	Performance Based Specification for Roadmarking
TNZ P/22	Specification for Reflectorised Pavement Marking
TNZ T/8	Specification for Roadmarking Paint Applicator Testing
TNZ T/12	Specification for Certification of Long-Life Pavement Marking Material Applicators
TNZ M/7	Specification for Roadmarking Paints
TNZ M/12	Specification for Raised Pavement Markers
TNZ M/13	Specification for Adhesion Agents
TNZ M/20	Specification for Long-Life Roadmarking Materials
TNZ Manual	Traffic Signs & Markings: Part 2 Road Markings
TNZ CoPTTM	Transit New Zealand Code of Practice for Temporary Traffic Management

### TNZ/LTSA Guidelines

TNZ QG Notes	Guidelines on Roles of the Client, Consultant and Contractor in Quality Assurance
RTS 4	Guidelines for Flush Medians
RTS 5	Guidelines for Rural Road Marking and Delineation

### Industry Guidelines & Codes of Practice

NZRF Roadmarkers Guides: - available on request from the NZRF

- Safety Health & Environment Guide (provides guidance on HSE and Environment)
- Guide to the Management of Traffic Hazard while Roadmarking (provides interpretation of TNZ CoPTTM)
- Line Removal Guide (provides guidance on line removal methods)
- Roadmarking Materials (provides information on roadmarking materials)

Local Roads Supplement to TNZ CoPTTM

RNZ Safe Handling of Bituminous Materials used in Roading (relates to RPM Adhesive)

NZCF Contractors Guide to Health & Safety in the Workplace

Code of Practice for the Management of Substances Hazardous to Health (MOSHH)

CRT&L ITO Operators Handbook for the Transport of Dangerous Goods (DG) by Road (provides guidance on DG requirements) – available from the Commercial Road Transport & Logistics ITO

### NZ Roadmarkers Federation Checklists

NZRF:CPPC001	NZRF Competitive Pricing Procedures Tender Evaluation Checklist
NZRF:CMC001	NZRF Contract Management - Site Review Checklist