

NETWORK OUTCOMES CONTRACT 2019

Volume 5: Appendices

SYSTEM MANAGEMENT

3 MARCH 2020

VERSION 3.1

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DOCUMENT CHANGE – FORMAT CODES

Black

Black text is mandatory and may not be changed without approval from the Network Outcomes Contract Model Governance Management Group.

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Struck out black text is used for removing mandatory content that has been prior approved by the Network Outcomes Contract Model Governance Management Group to be removed. Struck out text provides transparency of changes to an otherwise nationally consistent document. All struck out text must be confirmed within Section 7 of this Maintenance Specification.

Red

Red text is used for data which requires fields to be updated or at least considered for each contract. Text can also be used as is, modified or replaced. All red text adjustments must have the Manager System Management's approval.

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Blue text is used for optional clauses which can be included as is or deleted in full.

<<Guidance Notes>>

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1 CONTRACT WORKS

1.1 Definitions

In addition to the First Schedule of the Conditions of Contract, Part B, Clause 1.2 Definitions, the table below provides clarification on definitions used within the Contract Documents – CAPITALS are defined further as a separate entry.

| TABLE 1.1: DEFINITIONS | |
|---|---|
| TERM | DEFINITION |
| 30-Metre Geometry | A system of measurement of retro-reflectivity (night-time visibility) that is based upon the angles experienced when light from car headlights reflects off PAVEMENT markings 30 metres ahead of the vehicle and reflects back to the driver's eye. |
| Accrual | Accrual means the expected level of expenditure commitment at the end of the month for each SAP work unit, whether claimed or approved or not, and, as a minimum, the expenditure the Principal should expect to pay in the next two cheque runs. |
| Accrual Report | Accrual Report means that report delivered in accordance with Section 5 of the Specification. |
| Adjacent Highway Operations and Maintenance Contractor | Generally, refers to the maintenance contractor who looks after the next stretch of state highway beyond the contract boundary. However, in Auckland, this could be a Local Authority maintenance contractor. For example, Greenlane could be deemed a "highway". Refer to the region's Emergency Procedures Manual, to clarify. |
| Agreement for Entry | Means "Agreement for Entry onto Land", prepared by the Principal's Property Acquisition Agent for any purpose, for the legally defined land under the control of a landowner(s) or lessee(s) and signed and witnessed by the Principal and the landowner(s) or lessee(s), for each piece of land affected by the project, allowing legal access without trespass for the Contractor for the purposes of the contract. |
| Agrichemical | Any substance whether inorganic or organic, man-made or naturally occurring, modified or in its original state, that is used in any agriculture, horticulture or related activity to eradicate, modify or control flora and fauna (NZS 8409 New Zealand Standard Code of Practice for the Management of Agrichemicals). |
| Anti-Icing | The application of a CHEMICAL to trafficked surfaces prior to the formation of ICE to prevent ICE forming or binding to the PAVEMENT. See also DE-ICING. |
| Archaeological site | Archaeological site is defined in the Heritage New Zealand Pouhere Taonga Act 2014. In terms of this definition a site could include a building, site, object or material. See Highways and Information Portal for Culture & Historic Heritage. |

| TABLE 1.1: DEFINITIONS | |
|--|--|
| TERM | DEFINITION |
| Asphaltic Concrete | A mixture of bituminous binder and aggregate with or without mineral filler produced in a mixing plant. It is delivered, spread and compacted while hot, for use in road construction. See also HOT MIX ASPHALT. |
| Asset Information Database | Asset Information Database means those asset information systems that the Principal uses to record asset information including scope, condition history, performance history, location and works history, relating to the assets managed within this contract. |
| Asset Owner | The road controlling authority, Waka Kotahi NZ Transport Agency (Transport Agency) or local authority |
| Assets | The infrastructure that is owned by the Principal within the Network. All assets are recorded within the Asset Information Database. |
| At Grade Crossing Point | Any point on the Network that has been designed to assist pedestrians, cyclists, equestrians, etc to cross the roadway. This may include assets such as pedestrian island, zebra crossing, raised pavement platform, specific signage, tactile paving, barriers, fences, signalised services, other traffic calming and management assets. |
| Audio Tactile Profiled (ATP) Markings | PAVEMENT markings that provide audio, tactile (vibratory), and visual information to road users. See also BLOCK. |
| Bailey Bridge | The Bailey bridge is a type of portable, pre-fabricated, truss bridge. The Bailey bridge 'kit set' systems are ideal for use in emergency situations (such as when bridges collapse or are washed out) and as temporary structures for planned events. |
| Barrier | See ROAD SAFETY BARRIER. |
| Batter | The uniform SIDE SLOPE of walls, banks, cuttings, etc. The amount of such slope or rake, usually expressed as a ratio of horizontal to vertical, distinct from grade. In the context of VEGETATION CONTROL, that portion of road reserve (land) between the SURFACE WATER CHANNEL and the legal road boundary, excluding any SIDE DRAINS, and inclusive of cuts/fills/embankments or flat/sloping ground. |
| Benefit Cost Ratio | Benefit Cost Ratio means the ratio derived by dividing the contract benefits by the total cost of the project and calculated in accordance with the methodology set out in the <i>Economic Evaluation Manual</i> . |

| TABLE 1.1: DEFINITIONS | |
|-------------------------------------|--|
| TERM | DEFINITION |
| Benefit Cost Ratio Cut-off | Benefit Cost Ratio Cut-Off means that Benefit Cost Ratio nominated by the Transport Agency in the National Land Transport Programme for the current year as the minimum allowable for a project to be included for funding in the National Land Transport Programme. |
| Bleeding | The exudation of bituminous binder onto the road surface. Bleeding binder may be picked up on the tyres of passing traffic. It is distinguished from FLUSHING, which is a solid smooth surface caused by binder rise to the extent that the binder is above the surfacing aggregate. Bleeding may occur without the presence of any significant FLUSHING. FLUSHING may be the end result of extensive bleeding. |
| Block | The intermittent raised bumps formed from material and installed on the road surface or stripe to form an AUDIO TACTILE PROFILED MARKING. The term Block corresponds to the term RIB in MOTSAM. |
| Bridge | A bridge is any structure carrying traffic on, under or over the highway, and includes any CULVERT or multiple CULVERTs with a total waterway area greater than 3.4m ² . It includes, but is not limited to, CULVERT, stock or traffic underpasses or overbridges, and bridges. |
| Budget | Budget means the total financial allocation for a particular phase of the project, including contingencies, as agreed with the Principal as the target for expenditure for the phase. |
| Building Consent Application | Building Consent Application means an application made in accordance with Clause 45 of the Building Act to carry out any building work for any temporary or permanent movable or immovable structure not exempted by the Third Schedule of that Act. |
| Carriageway | The portion of a road or BRIDGE devoted particularly to the use of vehicles, inclusive of SHOULDERS and auxiliary lanes. Divided roads are considered to have two carriageways. See also SEALED CARRIAGEWAY, SEALED SHOULDER, UNSEALED SHOULDER. |
| Cash Flow | Cash Flow means the expected cumulative lump sum expenditure, including funds expended in previous years, predicting how the budget for the project phase will be spent in the agreed time frame. The cash flow will be provided in monthly or annual lump sums. |
| Chemical | In the context of VEGETATION CONTROL, any HERBICIDE. In the context of Winter Maintenance, a solid or liquid CHEMICAL DE-ICING agent added to trafficked surfaces to prevent ICE forming on the road surface or to assist with the removal of snow or ICE once formed. |

TABLE 1.1: DEFINITIONS

| TERM | DEFINITION |
|---|--|
| Chemical Control | The control of VEGETATION to the required standard by the use of HERBICIDES. |
| Chip seal | A PAVEMENT SURFACING TYPE consisting of a layer or layers of uniformly sized aggregate or sealing chip, spread over a film of freshly sprayed binder and subsequently rolled into place. |
| Coastal Marine Consent Application | Coastal Marine Consent Application means a resource consent application for a consent defined in Clause 87c of the Resource Management Act and otherwise managed in accordance with the section on Restricted Coastal Activities in that Act. |
| Cold Milling or Cold Milled | A method of automatically controlled removal of PAVEMENT to a desired depth with especially designed equipment. Generally used as part of the process to achieve restoration of a surface to a specified grade or slope, free of high points, ruts and other imperfections. The resulting textured PAVEMENT surface can be used immediately as a driving surface, and is usually then overlaid with a new surfacing. |
| Conductor | Any wire or cable used or placed in position for the conveyance of electricity; but does not include the wire of any electric fence. |
| Confidential Information | Information that is by its nature confidential, marked as “confidential”, provided by a party “in confidence” or information which a party knows or ought to know is confidential. It does not include information that is in the public domain through no fault of either party. |
| Construction Season | The season where the Contractor shall complete pavement rehabilitation and resurfacing works. Refer to Maintenance Specification for the dates that apply to this Network. |
| Contingency Plan | Contingency Plan means an alternative plan to be put into operation if needed, especially in case of emergencies, or if a primary plan fails. |
| Contract Works Material | Both electronic and physical versions of plans, designs, drawing and specifications, data, reports, intellectual property, and technical correspondence and every other matter or thing created or delivered under or in accordance with this contract, predominantly for and connected to the Contract Works (excluding any physical works). |

| TABLE 1.1: DEFINITIONS | |
|--------------------------|--|
| TERM | DEFINITION |
| Cracking | <p>The appearance in the road surface of small, regular, or irregular shaped continuous areas with fissures. Examples include:</p> <ul style="list-style-type: none"> Alligator Cracking, also known as chicken wire or crocodile cracking: semi-regular polygon-shaped contiguous areas of cracking, irrespective of the size of the polygon. Block Cracking: a pattern of cracking of a PAVEMENT surface that appears as a series of connected rectangles, irrespective of the size of the rectangle. Reflective Cracking: visible cracks in the PAVEMENT surfacing, caused by propagation of cracks through to the PAVEMENT surface from the underlying PAVEMENT layer. Longitudinal and Transverse Cracking: long cracks that run along or across the road. Shrinkage Cracking: cracks caused by shrinkage of old bituminous surfaces. Slippage Cracks: occur only in thin ASPHALTIC CONCRETE wearing course. They are usually crescent shaped and point in the direction of the thrust of the wheels on the PAVEMENT. |
| CS-VUE | <p>CS-VUE means the web-based compliance management system used by the Transport Agency. The purpose of the system is to hold the Transport Agency's resource consents, designations, building consents, Department of Conservation (DoC) concessions, Historic Places Trust (HPT) authorities, and associated documents, as well as providing the tools to efficiently and effectively manage consent compliance.</p> |
| Culvert | <p>One or more adjacent pipes or enclosed CHANNELS for conveying a watercourse or stream below the formation level of a road up to a maximum size of 3.4m² cross-sectional area, including accessway culverts. A CULVERT marker peg marks its position. See also DRAINAGE SYSTEM, ROUTINE DRAINAGE MAINTENANCE and STORMWATER STRUCTURE.</p> |
| Culvert Drain | <p>An open drain or ditch formed to drain water from the SURFACE WATER CHANNEL to a SIDE DRAIN or natural watercourse.</p> |
| Culvert Waterways | <p>Maintenance of culvert waterways includes gravel and waterway clearing.</p> <p>In the context of VEGETATION CONTROL, the length of drain between the CULVERT inlet or outlet and the adjacent fence-line or to a minimum of 5m from the CULVERT, whichever is the lesser.</p> |

TABLE 1.1: DEFINITIONS

| TERM | DEFINITION |
|------------------------------------|---|
| Curve | <p>Curves are regular bends in roads to bring a gradual change of direction. Some OPM criteria applies to curves as defined in the Out of Context Curve Table within RAMM. i.e.</p> <ul style="list-style-type: none"> • High-risk rural curve < 400m radius • Medium-risk rural curve < 400m radius • Low-risk rural curve 250m to 400m radius • Low-risk rural curve < 250 radius • Urban curve< 250m radius |
| Customer | <p>Customer means every person or community affected or influenced by any of the Principal's operations within the Network area.</p> |
| Cycle Furniture | <p>Street furniture specific to cyclists (e.g. bike stands)</p> |
| Cycle Lane | <p>Cycle lanes are painted lanes within the carriageway, motor vehicle drivers may use the lane in certain circumstances such as to access parking or to turn at intersections or driveways.</p> |
| Cyclic Inspection | <p>A type of ROUTINE INSPECTION, carried out at the specified inspection frequency.</p> |
| Cycling Facility | <p>Infrastructure that is cycling-specific, such as sealed shoulder (for cycling), cycle lanes, separated cycling paths, shared paths, grade separation and bike parking.</p> |
| Damage | <p>Any gouging of the PAVEMENT, removal of the seal, removal or harm caused to DRAINAGE FEATURES, TRAFFIC CONTROL DEVICES, ROADSIDE FURNITURE or other road assets so that they no longer meet specification.</p> |
| Defect | <p>In the context of physical works, the condition of an asset or a component of an asset which is deemed to require repair intervention in accordance with the relevant OPM.</p> <p>In the context of management tasks or deliverables, the condition of management task or deliverable which is deemed to require remedial effort.</p> |
| Defects Notification Period | <p>The period of a construction contract during which the Contractor is responsible for repairing or rectifying defects that appear in the Works. The period usually commences upon practical completion of the Works and runs for a specified time frame (sometimes also known as the maintenance period).</p> |
| De-icing | <p>The application of a CHEMICAL to trafficked surfaces to assist with the removal of snow or ICE once formed. See also ANTI-ICING.</p> |

| TABLE 1.1: DEFINITIONS | |
|----------------------------|---|
| TERM | DEFINITION |
| Depression | A road defect in which the road surface has sunk. Depressions will vary in shape and can develop either without loss of waterproofing (such as wheelpath rutting) or due to loss of waterproofing (as in areas where water can pond and may be associated with PAVEMENT settlement). Depressions may be isolated or not, roughly circular in shape or of considerable length along the wheelpaths. |
| Detritus | Any collection of fragments or material on the SEALED CARRIAGEWAY surface or in DRAINAGE FEATURES. Detritus includes loose sealing chip, PAVEMENT aggregate, dead animals, SLIPS, deposits of windblown sand or GRIT, deposits of loose aggregates, fallen leaves and the result of the build-up of minor droppings or spillages created from passing traffic or climatic conditions. See also SLIPS. Detritus in the context of DRAINAGE FEATURES may include wood debris, LITTER, and VEGETATION. |
| Drainage | Natural or artificial means for intercepting and removing surface or subsurface water (usually by gravity). See also DRAINAGE SYSTEM. |
| Drainage Feature | Any feature that forms part of the DRAINAGE SYSTEM. These include STORMWATER STRUCTURES, SIDE DRAINS, lined and unlined CHANNELS. |
| Drainage System | Includes all STORMWATER STRUCTURES, SURFACE WATER CHANNELS, SIDE DRAINS and other features associated with controlling storm water and runoff from the NETWORK. This includes BRIDGE deck DRAINAGE including CHANNELS, subsoils and associated outlets. |
| Edge Break | Fretting or breaking of the edge of a bituminous surface, such that the loss of surfacing encroaches into the CARRIAGEWAY by more than 100mm from the nominal seal edge or onto the white edge line. |
| Edge Rutting | A defect where ruts appear at the edge of a bituminous surface, usually in the UNSEALED SHOULDER. |
| Embossed | LONG LIFE PAVEMENT MARKINGS which have a pattern imprinted on them at the time of application while the material is still hot. The pattern is generally not formed by the extrusion foot or applicator but is rather applied to the pavement marking by a separate piece of equipment, such as a roller. |
| Environmental Asset | Environmental assets include storm water, vegetated systems, stormwater ponds, landscaping areas and mitigation planting, fish passages, stopping places, rest areas and associated furniture, protected vegetation, heritage sites, vegetated retaining walls and noise barriers. |

| TABLE 1.1: DEFINITIONS | |
|--|---|
| TERM | DEFINITION |
| Environmental Incident | An environmental incident is an occurrence or set of circumstances, as a consequence of which pollution (air, water, noise, or land) or an adverse environmental impact has occurred, is occurring or likely to have occurred. Adverse environmental impact includes discharge of contaminants to ground or water, harm to flora and fauna, disturbance of heritage items, and impacts to human health or amenity. What constitutes as an environmental incident shall be defined by the Principal. |
| Exception Report | Exception Report means that report to be delivered in accordance with RAMM, SCRIM (Sideways-force Coefficient Routine Investigation Machine) and financial. |
| Extreme Snow and Ice Events | Extreme weather events that result in short periods of times when specified winter maintenance levels of service cannot be maintained. See also ANTI-ICING, DE-ICING, ICE, SNOW CLEARANCE and WEATHER MONITORING. |
| Fault | An imperfection that may require remedy. It is a description of the weakness of an asset which may give rise to the need for maintenance. Faults are ranked (SEVERITY WEIGHTING) to assess asset behaviour relating to an estimated time for the condition of a fault to move to a higher state. DEFECT has a ranking (SEVERITY WEIGHTING) that fails to meet levels of service and requires intervention. |
| First Aid Treatment | Work related injury requiring treatment with basic first aid techniques, by first aider or nurse. |
| Flushing | A flushed surface is one in which the binder is approaching or above the mean level of the top of the surfacing aggregate such that surface texture is lost. |
| Fly Tipping | Illegal dumping is typically distinguished from littering by the type and amount of material and/or the manner in which it is discarded. |
| Footpath | A footpath is a type of thoroughfare that is intended for use only by pedestrians and not other forms of traffic such as motorised vehicles, cycles, and horses. Urban footpaths are usually paved. |
| Grit | Fine angular mineral aggregate, usually passing a 4.75mm sieve. |
| Gritting | The application of GRIT to trafficked surfaces. Often used where ICE may create or has created a potential traffic hazard. |
| Hapai | Safety works investment prioritisation process. |
| Health and Safety Compliance Notice | Health and Safety Compliance Notice means the notice contained in the Transport Agency's Minimum Standard Z/5 – Health and Safety Compliance Notice to be delivered in this contract. |

| TABLE 1.1: DEFINITIONS | |
|--|---|
| TERM | DEFINITION |
| Herbicide | An AGRICHEMICAL that is specifically designed to kill or eradicate unwanted plants. |
| High Performance Pavement Marking | PAVEMENT markings that at any time during the contract or warranty period comply with the following minimum performance criteria: <ul style="list-style-type: none"> • Reflectivity (dry): A minimum of 150 mcd/m²/lux when measured with a 30-METRE GEOMETRY retroreflector. • Reflectivity (wet): A minimum of 80 mcd/m²/lux when measured with a 30-METRE GEOMETRY retroreflector. |
| Hot Mix, Hot Mix Asphalt | Aggregate and bitumen heated and mixed while hot, transported to the site of construction, laid and compacted while hot. See also PREMIX and ASPHALTIC CONCRETE. |
| Ice | Ice includes frost and can consist of: <ul style="list-style-type: none"> • Thick ice, several layers-thick of ice crystals; • Thin ice or ice glaze, a one-crystal layer-thick ice that moulds over the macro-texture of the road; • Ground icing, e.g. frost or light snow compacted by trafficking. |
| Incident | Any event that may affect either: <ol style="list-style-type: none"> a) The NETWORK'S safety, use, and integrity b) Road users' safety c) Any event that results in a spill or discharge (accidental or intentional), that may require the Contractor's action and the Principal agrees that it constitutes an incident. An unplanned event that resulted in, or had the potential to result in a death, MTI, LTI, No Injury and Serious Near Miss. |
| Indigenous Species | A species originating in and characteristic of New Zealand. |
| Industry Best Practice | A best practice is a method or technique that has consistently shown results superior to those achieved with other means, and that is used as a benchmark. In addition, a "best" practice can evolve to become better as improvements are discovered. |

| TABLE 1.1: DEFINITIONS | |
|--|---|
| TERM | DEFINITION |
| Initial Remark | <p>In the context of a Transport Agency P/20 Performance Based Pavement Marking Contract, the first time the PAVEMENT markings are remarked. The purpose of the initial remark is to bring the standard of PAVEMENT markings on the NETWORK up to the standard required by Transport Agency P/20. An initial remark is only completed the first time a Transport Agency P/20 contract is used on a NETWORK (subsequent contracts will involve taking over a NETWORK with markings already at Transport Agency P/20 standard).</p> <p>In the context of a resurfacing, the first PAVEMENT remarking after a surfacing TREATMENT.</p> |
| Inventory | A summary of all the items of a particular asset type (e.g. signs or DRAINAGE FEATURES) on a NETWORK, including some information about them, such as location, age, size and type. |
| KiwiRAP | KiwiRAP is an internationally recognised road assessment program (RAP) that aims to raise awareness of the risk of being involved in a Crash on New Zealand's state highways. KiwiRAP uses different methods to measure road safety, including risk maps based on the crash history of a road and five star ratings based on a road's engineering features. |
| Lighting Fixture | The term lighting fixture means lamps, luminaries, and other parts of the lighting structure or power supply including poles, cables and associated protection. |
| Limit of Works | The full Network extent as defined within the Maintenance Specification, Section 1.7 and Appendices, Table 1.4. |
| Litter | Any single item with a dimension greater than 100mm. For example, items such as paper, refuse, rubbish, garbage, tyre parts, drink bottles and cans or any item of a like nature. |
| Long Life Pavement Marking | Marking materials that have a long service life and are typically applied at thicknesses of about 0.9mm or more. |
| Lost Time Injury | Work related injury or illness certified by a medical practitioner resulting in a worker not able to work on next scheduled day or shift after injury. |
| Maintenance Intervention Strategy (MIS) | <p>The Maintenance Intervention Strategy (MIS), which:</p> <ul style="list-style-type: none"> a) States the type and extent of work permitted under each maintenance strategy. b) Aligns to the highway environment. |

| TABLE 1.1: DEFINITIONS | |
|--|---|
| TERM | DEFINITION |
| Maintenance Programme | <p>A PROGRAMME designed to:</p> <ol style="list-style-type: none"> 1. Improve the existing condition of the road asset, including PAVEMENTS, surfacings, ROADSIDE FURNITURE 2. Improve the environment for members of the public using State Highways. This includes visual improvements and improvements that make the NETWORK safer. 3. Meet the above requirements within current financial budgets. |
| Make Safe | <ol style="list-style-type: none"> 1. To mitigate the exposure to risk due to the existence of a hazard that has the potential to cause harm. This may involve the removal of obstructions or the erection of signs or BARRIERS 2. In the context of Winter Maintenance, actions undertaken to ensure that the NETWORK has appropriate signage in accordance with CoPTTM, the approved TMP and any restrictions relating to level of service and where: <ul style="list-style-type: none"> • The PAVEMENT surface is either free of ICE or free of settled snow, or ICE is covered with GRIT such that: a vehicle tyre is not in full contact with ICE or snow; sufficient tyre friction is maintained for traffic to travel without loss of control, and vehicles have the ability to stop without skidding when driving at an appropriate speed for the conditions, or, • The road can be opened with some restrictions being sign posted appropriately such as open to non-towing vehicles, open to vehicles with chain or open with speed restriction. <p>See also ANTI-ICING, DE-ICING, GRITTING, ICE and SNOW CLEARANCE.</p> |
| Manhole | See SERVICE HOLE. |
| Mechanical Control | Control of VEGETATION using equipment such as mowers and weed eaters. The use of HERBICIDES is excluded. |
| Medical Treatment Injury | Treatment of injury or illness by a qualified medical practitioner. |
| Milling | <p>In the context of PAVEMENT maintenance, refer to COLD MILLING.</p> <p>In the context of PAVEMENT marking, the removal or partial removal of LONG LIFE MARKINGS.</p> |
| National Land Transport Programme | National Land Transport Programme means the proposed programme of expenditure for the following three years, prepared by the Transport Agency in accordance with the Land Transport Management Act, Clause 19. |
| Near Miss (Close Call) | Incident that could have caused injury but did not. |

| TABLE 1.1: DEFINITIONS | |
|--|---|
| TERM | DEFINITION |
| Network Monitoring | In the context of Winter Maintenance, the observation of the NETWORK by methods such as WEATHER MONITORING, PATROLLING and other means for the purpose of being proactive in mobilising the appropriate resources as necessary to ensure the specified levels of service are achieved during a winter event, such as an EXTREME SNOW AND ICE EVENT. See also PATROLLING and WEATHER MONITORING. |
| No Spray Zone | Areas where the use of CHEMICAL agents for VEGETATION CONTROL is not permitted. |
| Noise Wall | A structure designed to protect inhabitants of sensitive land use areas from noise pollution. |
| Non-Routine Marking | <p>Non-routine marking is defined as:</p> <ul style="list-style-type: none"> a) Any marking work completed that is not part of a REMARK. b) Includes new and urgent marking works. c) Includes REMARKING all resurfacing, rehabilitation and reconstruction works completed each year within the NETWORK (as specified). <p>See also REMARK.</p> |
| Non-Standard Sign | All signs that are not STANDARD SIGNS but have been approved by the Principal's Traffic and Safety Manager, such as signs from the Location Referencing Management System (LRMS) Manual. |
| Notice of Requirement (NOR) | Notice Of Requirement (NOR) means a notice given in accordance with Clause 168 of the Resource Management Act. |
| Notifiable Incident | Notifiable Injury, Illness, Incident or Event as described under HSWA. |
| Notification | The time the Contractor was advised of the INCIDENT, defect or emergency by the Engineer, the Contractor's personnel, or a third party (such as Police, Principal or a member of the public). This includes observations made during any inspections, or when the Contractor becomes, or should have become, aware of the INCIDENT through monitoring requirements. |
| Open Graded Porous Asphalt (OGPA) | Open Graded Porous Asphalt, a gap-graded hot mixed asphalt containing a mix of binder and larger sized aggregates with only small amounts of fine material, with relatively high void content, and depending largely on mechanical interlock for stability. It has interconnected voids which aid drainage of road surface water. See also ASPHALTIC CONCRETE, PAVEMENT SURFACING TYPE. |
| Other Personnel | Other Personnel means any other of the Contractor's personnel (including Sub-contractors' personnel) who may be used to complete the Contract Works. |

| TABLE 1.1: DEFINITIONS | |
|-------------------------------|--|
| TERM | DEFINITION |
| Other Structures | <p>Other structures include structures within the road corridor meeting any of the following criteria:</p> <ul style="list-style-type: none"> a. structures where public safety or critical network function is likely to be significantly affected in the event of failure, irrespective of ownership, b. structures of high value, c. structures requiring specialised engineering inspection. <p>Other structures include, but are not limited to, underpasses, tunnels, bailey bridges, footbridges, large drainage structures, rockfall and slope debris control structures, mechanically stabilised earth structures, stabilised slopes and batters, and river or coastal protection works.</p> |
| Overslip | Is a SLIP that is located on the uphill side of the road. |
| Paint | Refers to paint used for line markings on road surfaces, generally paint intended for use by spray application. It is expected that paint used in conjunction with this specification will be compliant with Transport Agency M/7 Specification for road marking paint. |
| Patrol, Patrolling | <ul style="list-style-type: none"> a. In the context of Winter Maintenance, a regular inspection of the highway, initiated during periods when a snow or ICE event can be reasonably expected. Patrolling should as far as possible be carried out by a vehicle especially equipped for the purpose. This should be a vehicle capable of making some immediate response to hazardous situations encountered, such as spreading GRIT (or DE-ICING CHEMICAL where specified). See also NETWORK MONITORING. b. In the context of INCIDENT response, mobilisation of the appropriate resources as necessary to ensure the specified levels of service are achieved. |
| Pavement | The portion of the road, excluding SHOULDERS, that is placed above the design subgrade level for the support of, and to form a running surface for, vehicular traffic. It is supported by the subgrade. |
| Pavement Surface Types | See CHIP SEAL, ASPHALT CONCRETE, OPGA. |
| Pedestrian | Any person on foot or using a powered wheelchair or scooter or a wheeled means of conveyance propelled by human power, other than a bicycle. |
| Pest Plants | WEEDS that can cause serious harm to the natural environment, be an economic threat or affect human health |

TABLE 1.1: DEFINITIONS

| TERM | DEFINITION |
|-------------------------------|---|
| Possession of Site | In the context of PRE-RESURFACING repairs, possession of Site is when the Contractor becomes responsible for any outstanding work that has appeared, and any PRE-RESURFACING repairs that the Contractor has not completed, and all repairs up until sealing, for sections scheduled for resealing that year. |
| Pothole | A hole in a sealed or unsealed PAVEMENT, frequently round in shape, resulting from loss of PAVEMENT material and caused by the action of traffic. As a defect, potholes are defined as where surface attrition has occurred in areas of PAVEMENT and the underlying PAVEMENT is exposed. (This does not include SCABBING and STRIPPING on a chip seal). |
| Premix | <p>Premix includes all bitumen-bound materials, whether hot-laid or cold-laid, that have been mixed prior to being placed in the repair area. Premix does not include bitumen-stabilised aggregates.</p> <p>To be classified as premix as opposed to bitumen stabilised aggregate, the mix shall have a binder content greater than 2.5%.</p> <p>See also HOT MIX ASPHALT.</p> |
| Pre-resurfacing | Any activity undertaken in the period up to a year before resurfacing, to prepare the surface for a chip seal or asphaltic surface, such as, but not limited to, DIGOUT, Patching, Cold Mill and Inlay CRACK filling, Texturising (Scabbing), lichen removal, Watercutting, Edgebreak Repair, Low Shoulder repair, pre-levelling, stabilisation, rip & remake. |
| Programme | A system of projects or services intended to meet a public need or to treat an asset in order to reach a desired level of service. |
| Programmed Maintenance | A strategy to intervene to reduce or optimise ROUTINE MAINTENANCE needs, e.g. bulk replacement of edge marker posts, or a carriageway lighting replacement PROGRAMME. See also ROUTINE MAINTENANCE. |
| Racked-in Seals | <p>In a racked-in seal, the binder is applied followed by a relatively light application of the big chip and then a smaller chip is applied that sits between the larger chips.</p> <p>The smaller chip effectively locks the larger chip in place. As most of the traffic load is carried by the bigger chip the total effect is a stronger seal. A racked-in seal is not so dependent on traffic compaction to obtain strength.</p> |
| Rails | Rails are sight rails, bridge rails (non-structural) or pedestrian handrails. |

| TABLE 1.1: DEFINITIONS | |
|----------------------------|---|
| TERM | DEFINITION |
| Refurbished EMPs | <p>A refurbished EMP is defined as an EMP which has been either:</p> <ul style="list-style-type: none"> • Straigtened, • Cleaned, • Reinstalled (using the same post that has been removed or previously removed from another location), or • Has had replacement of reflectors and/or red bands.. |
| Remarking | <p>A routine remark:</p> <ol style="list-style-type: none"> 1. Is defined as all work associated with remarking existing markings within the NETWORK. 2. Includes planned marking works completed since the previous remark. <p>See also UNSCHEDULED MARKING</p> |
| Resource Efficiency | <p>Achieving the best possible output for the least volume of materials and energy consumed during the maintenance of the Network, while providing the relevant levels of services for safety, speed, environment and amenity.</p> |
| Rest Areas | <p>A designated area adjacent to a highway where vehicles can stop temporarily for the rest and relaxation of drivers and passengers.</p> |
| Retro reflectivity | <p>The property usually provided by glass beads or signage whereby the light from vehicle headlamps is reflected back to the driver, providing increased visibility at night.</p> |
| Rib | <p>See BLOCK.</p> |
| Road Safety Barrier | <ol style="list-style-type: none"> a. A physical BARRIER, including guardrails, designed to resist penetration by an out-of-control vehicle and, so far as is practicable, to redirect colliding vehicles back into the travelled path. b. A BARRIER meeting the specification requirements of Transport Agency M/23. |
| Road User | <p>A user of the Network (e.g. someone who travels within the designated road corridor, such as a pedestrian, cyclist, motorcyclist or motorist).</p> |

TABLE 1.1: DEFINITIONS

| TERM | DEFINITION |
|----------------------------|---|
| Roadside Facilities | <p>Roadside facilities include but are not limited to:</p> <ul style="list-style-type: none"> a. ROADSIDE FURNITURE b. ROAD SAFETY BARRIER systems c. Lighting columns d. Fences e. REST AREA furniture f. Pedestrian refuges g. Pedestrian facilities (such as pedestrian lighting, belisha beacons, pedestrian crossing poles) h. Handrails i. CULVERTS j. DRAINAGE SYSTEM k. BRIDGES l. OTHER STRUCTURES m. Retaining walls n. Sign support structures o. WEIGHPIPs and weigh stations p. Stopping or pull off areas q. Other facilities as specified. <p>Roadside facilities do not include:</p> <ul style="list-style-type: none"> a. Toilet facilities b. Other facilities as specified. |
| Roadside Furniture | <p>These include edge marker posts, route position pegs, CULVERT marker pegs, subsoil drain markers, benchmark markers, calibration site markers, sight rails, BRIDGE end and hazard markers and signs as specified.</p> |
| Routine Inspection | <p>An activity carried out as part of ROUTINE MAINTENANCE, such as monthly inspection of the NETWORK carried out to create the ROUTINE MAINTENANCE PROGRAMME. See also CYCLIC INSPECTION.</p> |
| Routine Maintenance | <p>Periodic maintenance as required on an individual item to achieve the service level required, e.g. a digout in a PAVEMENT, or the replacement of a single light bulb. See also PROGRAMMED MAINTENANCE.</p> |
| Rural Area | <p>Means any section of road with a permanent speed limit greater than 70km/hr as defined within the RAMM carriageway table.</p> |

TABLE 1.1: DEFINITIONS

| TERM | DEFINITION | | | | | | | | |
|------------------------------------|---|---|--|---|--|---|--|---|---|
| Health and Safety in Design | <p>Health and Safety in Design is a standard that integrates hazard identification and risk assessment methods early in the design process.</p> <p>The Transport Agency now requires that all projects/works are to go through the Health and Safety in Design process. The design team must integrate safety in design standards into projects and encourage collaboration to improve planning, management and the early identification of hazards. Health and Safety in Design reviews should be held during the concept and detailed design phases in the project life cycle, however it may be appropriate in the construction phase if a review has not been held.</p> | | | | | | | | |
| Sandwich Seal | <p>A sandwich seal is applied in the following sequence:</p> <ul style="list-style-type: none"> • A layer of large chip is spread directly on the existing surface. • This is followed by a relatively light application of binder. • A smaller chip is then spread directly onto the sprayed binder. • The surface is rolled to compact the seal. <p>Sandwich seals are useful:</p> <ul style="list-style-type: none"> • On existing sealed surfaces which are unsuitable for conventional resealing as they are rich in binder (e.g. flushed surfaces with little to no texture). • To help correct binder: stone ratios in unstable or potentially unstable seal layers. | | | | | | | | |
| Scabbing | <p>The progressive loss of chip from a chip seal, often in patches. Can be exacerbated by cold weather and the action of traffic. See also STRIPPING.</p> | | | | | | | | |
| Schedule | <table border="0"> <tr> <td style="padding-right: 20px;">1</td> <td>The Schedule of Prices in a Contract Document.</td> </tr> <tr> <td>2</td> <td>A section of the “Conditions of Contract” (blue section) of standard SOMAC documents, e.g. the “First Schedule”.</td> </tr> <tr> <td>3</td> <td>A list of areas or assets included in the contract</td> </tr> <tr> <td>4</td> <td>A list of exclusions from the contract area</td> </tr> </table> | 1 | The Schedule of Prices in a Contract Document. | 2 | A section of the “Conditions of Contract” (blue section) of standard SOMAC documents, e.g. the “First Schedule”. | 3 | A list of areas or assets included in the contract | 4 | A list of exclusions from the contract area |
| 1 | The Schedule of Prices in a Contract Document. | | | | | | | | |
| 2 | A section of the “Conditions of Contract” (blue section) of standard SOMAC documents, e.g. the “First Schedule”. | | | | | | | | |
| 3 | A list of areas or assets included in the contract | | | | | | | | |
| 4 | A list of exclusions from the contract area | | | | | | | | |
| Scheduled Remark | <p>In the context of a Transport Agency P/20 Performance Based Pavement Marking Contract, a scheduled remarking of the PAVEMENT markings (e.g. in response to frost gritting).</p> <p>The purpose of the scheduled remark is to restore the standard of PAVEMENT markings on the NETWORK to the standard required by Transport Agency P/20.</p> | | | | | | | | |
| SCRIM | <p>Sideway force Coefficient Routine Investigation Machine: a machine used to measure wheel path SKID RESISTANCE.</p> | | | | | | | | |

| TABLE 1.1: DEFINITIONS | |
|------------------------------------|---|
| TERM | DEFINITION |
| Sealed Carriageway | That portion of the road PAVEMENT sealed to protect and waterproof the underlying PAVEMENT, (inclusive of SEALED SHOULDERS) and provide a suitable driving surface for vehicles. |
| Sealed Shoulder | <p>That portion of the SEALED CARRIAGEWAY beyond the traffic lane, located between the traffic lane edge line and the edge of seal, generally flush and contiguous with the SEALED CARRIAGEWAY.</p> <p>A sealed shoulder may comprise of space and an appropriate surface for cycling outside the general traffic lanes along the edge of a generally unkerbed road and may have been identified as a cycle facility as part of the STATE HIGHWAY CYCLE NETWORK. The sealed shoulder will provide space and an appropriate surface for cycling outside the general traffic lanes. Sealed shoulders also have other purposes such as pull-off areas for breakdowns. They are generally provided on higher speed rural roads.</p> |
| Seasonal Sign | Any STANDARD SIGN that is a standard information or regulatory sign and is erected and removed according to a set operational procedure for a limited part of the year, e.g. a seasonal speed limit change. |
| Second Coat Sealing | A second-coat seal is a seal applied on top of a previously applied first-coat seal over PAVEMENT repairs to provide both waterproofing and a surface texture consistent with the surrounding PAVEMENT. For a PRE-RESURFACING repair a Second Coat Seal is not required. |
| Separated Cycleway | Separated cycleways are facilities exclusively for cycling. They involve some form of physical separation from motor traffic and are generally situated on or adjacent to the roadway, usually within the legal road. The separation may involve horizontal and/or vertical components. |
| Serious Near Miss | An incident or condition that could have caused a Lost Time Injury (LTI) or Medical Treatment Injury (MTI) injury/illness or death but did not. |
| Service Hole, Service Cover | A shaft with a removable cover that leads down to a sewer, drain or other underground service. Also called a MANHOLE. |
| Service Related Works | Service Related Works means activities generated through the management of the installation, maintenance or modification of services within the road corridor. |
| Severity Weighting | Relates to the fault condition observation of an asset and the progression overtime to move from one fault condition to a higher state” DEFECT has a ranking (severity weighting) that fails to meet levels of service and requires intervention. |

| TABLE 1.1: DEFINITIONS | |
|-----------------------------|--|
| TERM | DEFINITION |
| Shared Path | A shared path means an area of road, separated from a roadway, that may be used by some or all of the following persons at the same time: pedestrians, cyclists, riders of mobility devices and riders of wheeled recreational devices. |
| Shoulder | This term refers to the general area between the edge of seal and a point 500mm beyond the invert of the SURFACE WATER CHANNEL. See also UNSEALED SHOULDER, SEALED SHOULDER |
| Shoulder Hinge Point | In the cross-section of a road, the point at which the SIDE SLOPE would intersect with the UNSEALED SHOULDER, or in the absence of an UNSEALED SHOULDER, the SEALED SHOULDER. |
| Side Drain | A longitudinal surface drain or ditch, usually U-shaped and generally located between the SURFACE WATER CHANNEL and the legal road boundary. While it is intended to carry water from the surrounding land, in some situations the side drain may run immediately adjacent to the road PAVEMENT and collect surface water runoff from the road surface and adjacent land. |
| Side Slope | That area of road formation, located between the SHOULDER HINGE POINT and the SURFACE WATER CHANNEL, having a gradient steeper than 1:12, but no steeper than 1:5. |
| Single Slip Event | One or more slips that can be managed within a single implementation of traffic control or one or more slips that occur at the same site within a 24-hour period. |
| Skid Resistance | The frictional resistance provided by the PAVEMENT surface to vehicle tyres during braking or cornering manoeuvres, that opposes skidding. It is usually measured on wet surfaces. PAVEMENT surface Skid Resistance is measured on a network-wide basis with machines such as the SCRIM. PAVEMENT marking Skid Resistance is measured using devices such as the BPT. |
| Slips | Slips include collapsing banks and frettings from cuttings: <ol style="list-style-type: none"> a. They are greater than 1m³ in volume. b. They encroach on to the surface of the SEALED CARRIAGEWAY and/or affect the effective operation of existing DRAINAGE FEATURES. <p>Also refer to OVERSLIP and UNDERSLIP.</p> |

TABLE 1.1: DEFINITIONS

| TERM | DEFINITION |
|-------------------------------------|--|
| Snow Clearance | The removal of snow from all trafficked surfaces, including on the surfaces of SEALED CARRIAGEWAYS outside the lead-in lines on the approaches to single lane BRIDGES, when it becomes (or to prevent it from becoming) a potential traffic hazard. |
| Splitter Island | A raised or painted traffic island that separates traffic in opposing directions of travel. They are typically used at roundabouts and on the minor road approaches to an intersection. |
| Standard Sign | All signs compliant with MOTSAM and the Traffic Control Devices Manual. See also NON-STANDARD SIGNS. |
| State Highway Cycle Network | Is the identified cycle routes on the state highway network that are commonly used by people on bikes and is developed as a combination of the national, regional, local strategic cycling networks and/or a popular cycling routes. |
| Storm water Structure | Any structure with a maximum waterway not exceeding 3.4m ² . It includes, but is not limited to, CULVERTS, SERVICE HOLES (MANHOLES), sumps, slot drains, catch pits, soak pits, flumes, outlets to subsoil drains, storm water ponds, outlets to bored horizontal drains, and accessway CULVERTS. |
| Stripping | Stripping is the displacement of binder from the chip, causing chip loss, generally through cold or wet conditions. See also SCABBBING. |
| Structures | General definition for bridges, large culverts, gantries and retaining walls. |
| Surface Water Channel | An unlined open drain or ditch or concrete-lined channel formed for the collection and DRAINAGE of water runoff from the road's surface. The width of an unlined CHANNEL shall be a minimum of 1.0m (0.5m either side of the invert). Also known as a V-shaped CHANNEL. See also SIDE DRAIN. |
| Taonga | An object that relates to Maori culture, history or society: <ol style="list-style-type: none"> a. Manufactured or modified in New Zealand by Maori. b. Brought into New Zealand by Maori. c. Used by Maori. |
| Temporary Traffic Management | The process of managing road users through or past a work-site in a safe manner with minimal delay and inconvenience. |
| Terminal End System | A Transport Agency M/23 compliant end treatment used to protect the road user from the barrier end and forms part of the overall barrier system and length of need. |
| Texturising Seal | A pre-treatment to prepare a surface for a reseal by reducing texture variance, or to reinstate texture. |

| TABLE 1.1: DEFINITIONS | |
|---|--|
| TERM | DEFINITION |
| Third Party (3rd Party) | Someone who may be indirectly involved but is not a principal party to an arrangement, contract, or transaction. Examples include utility providers, police, other contractors, adjacent land owners, drivers, pedestrians, cyclists and horse riders. |
| Traffic Control Devices | Any sign, signal, PAVEMENT marking or other installation placed or erected for the purpose of regulating, warning or guiding traffic. |
| Treatment | Any activity undertaken on the road, such as resurfacing or ROUTINE MAINTENANCE, with the intention of achieving the desired level of service. In the context of winter maintenance, the work required to deal with snow and ICE hazards on the NETWORK so that the NETWORK meets the required levels of service. |
| Trimming | In the context of a VEGETATION CONTROL contract, the removal of branches or removal of mature trees, scrub or shrubs with a trunk less than 300mm diameter. In the context of PAVEMENT maintenance, the removal of excess material to create a straight edge on a digout or repair, prior to filling and/or sealing. |
| Underslip | Is a SLIP that is located on the downhill side of the road. |
| Unofficial Signs | Signs non-compliant with MOTSAM and the Traffic Control Devices Manual, which the Principal has not approved. (See also STANDARD SIGNS, NON-STANDARD SIGNS). |
| Unscheduled Marking | Unscheduled marking: <ol style="list-style-type: none"> a. Any marking work that is not part of a REMARK. b. Includes new and urgent marking works. c. Includes remarking all resurfacing, rehabilitation and reconstruction works completed each year within the NETWORK (as specified). See also REMARK |
| Unscheduled Work | Unscheduled work can be either new or maintenance work required outside standard or programmed activities. See also URGENT WORK. |
| Unsealed Shoulder | That portion of the CARRIAGEWAY, located between the edge of seal and the SHOULDER HINGE POINT, having a slope generally no steeper than 1:12, except on curves where the super-elevation may increase the slope. |
| Urban Area | Means any section of highway with a permanent speed limit up to and including 70km/hr as defined within the RAMM Carriageway table. |
| Urgent Work | Urgent Work is a subset of UNSCHEDULED WORK. |

| TABLE 1.1: DEFINITIONS | |
|------------------------------|---|
| TERM | DEFINITION |
| Value for Money | Means optimal selection using the Principal's Allocation Profile (includes the project's cost-effective contribution to the New Zealand Transport Strategy objectives). |
| Vegetation | All plant life alive or dead within the NETWORK and including, but not limited to, grass, WEEDS, scrub, including PEST PLANTS, shrubs, moss, lichen, trees, overhanging and fallen branches. |
| Vegetation Control | All work required to control and maintain VEGETATION within the road reserve and other areas specified in the Contract Documents. |
| Vegetation Management | All work required to manage and maintain VEGETATION and CANOPY coverage within the road reserve and other areas (outside of the vegetation free zone) specified in the Contract Documents. |
| Verge | That area of road reserve located between the SHOULDER HINGE POINT and the legal road boundary. |
| Weather Monitoring | Consists of regularly obtaining weather information from forecasts and weather stations, and obtaining information from road users and visual monitoring. Once an ICE or snow event is predicted, weather monitoring shall be performed at a maximum interval of 2 hours until the end of the event. An event is at an end when the NETWORK is free of any snow or ICE and no further events are predicted for the next 24 hours. See also NETWORK MONITORING and PATROLLING. |
| Weed | A plant considered undesirable, unattractive, or troublesome, especially one growing where it is not wanted. Weeds that are included in regional pest management strategies are termed PEST PLANTS. |
| Weighpit | A slot (pit) on a concrete pad designed to accommodate portable wheel weighing scales that are used to weigh vehicles. The depth of the slot enables the surface of the scales to be at the same level as the surrounding PAVEMENT surface. |
| Wheel Path | That portion of a pavement that is contacted by the wheels/tyres of vehicles in a typical traffic stream. The location and width varies; however, it is typically from 0.9m to 1.2m wide. |
| Winter Period | The period where the Network is at risk of snow and ice events. Refer to Conditions of Contract, Schedule 2 – Special Conditions of Contract – Other Conditions of Contract for the actual applicable date period for this Network. |

1.2 Acronyms

The table below provides the meaning to certain acronyms used within the Contract Documents.

| TABLE 1.2: ACRONYMS | |
|---------------------|---|
| ACRONYM | MEANING |
| AADT | Annual Average Daily Traffic |
| AC | Asphaltic Concrete |
| Acc | Access, but not low volume, road category as defined by the One Network Road Classification (ONRC). |
| AccLV | Access, and low volume, road category as defined by the One Network Road Classification (ONRC). |
| ANPR | Automatic Number Plate Recognition |
| Art | Arterial road category as defined by the One Network Road Classification (ONRC). |
| ATMS | Advanced Traffic Management System |
| ATP | Audio Tactile Profiled |
| AVL | Automatic Vehicle Location |
| BCR | Benefit Cost Ratio |
| BIMIQ | Barrier Installation and Maintenance Inspections Qualification |
| CAR | Corridor Access Request |
| CAS | Curve Advisory Sign |
| CB | Contract Board |
| CDEM | Civil Defence Emergency Management |
| CIMS | Coordinated Incident Management System |
| CIP | Contract Intervention Period |
| CMA | Calcium Magnesium Acetate |
| CMR | Contract Management Review |
| CMS | Changeable Message Sign |
| CMT | Contract Management Team |
| CoPTTM | Code of Practice for Temporary Traffic Management |

| TABLE 1.2: ACRONYMS | |
|---------------------|--|
| ACRONYM | MEANING |
| CP | Contract Plan |
| CRMS | Customer Relationship Management System |
| CRS | Crash Reduction Study |
| CSMP | Customer & Stakeholder Management Plan |
| CVP | Customer Value Proposition |
| CWS | Cycle Warning Sign |
| DISPL | Displacement |
| DJR | Daily Job Record |
| DOC | Department of Conservation |
| DSI | Death and Serious Injury |
| DXF | Drawing Interchange Format |
| EEM | Economic Evaluation Manual |
| EMOGPA | Epoxy-Modified Open-Graded Porous Asphalt |
| EMP | Edge Marker Post |
| EPPP | Emergency Procedures and Preparedness Plan |
| ERP | Established Route Position |
| ESC | Equilibrium Scrim Coefficient |
| ESMP | Environmental and Social Management Plan |
| ESRI | Environmental Systems Research Institute |
| FTE | Full Time Equivalent |
| FWD | Falling Weight Deflectometer |
| FWP | Forward Work Programme |
| FWS | Flood Warning Sign |
| GeoTIFF | Georeferenced Tagged Image File Format |
| GIS | Geographic Information System |
| HCV | Heavy Commercial Vehicle |

| TABLE 1.2: ACRONYMS | |
|---------------------|--|
| ACRONYM | MEANING |
| HNZPTA | Heritage NZ Pouhere Taonga Act |
| HPMV | High Productivity Motor Vehicle |
| HSIMS | Highway Structures Information Management System |
| HSMP | Health and Safety Management Plan |
| IANZ | International Accreditation New Zealand |
| IL | Investigatory Level |
| IRI | International Roughness Index |
| ITS | Intelligent Transport System |
| ITP | Inspection and Test Plan |
| IWS | Ice Warning Signs |
| KAT | KiwiRAP Analysis Tool |
| KPI | Key Performance Indicator |
| KRA | Key Result Area |
| LA | Local Authority |
| LAR | Limited Access Roads |
| LATMS | Local Area Traffic Management Scheme |
| LHS | Left hand Side |
| LINZ | Land Information New Zealand |
| LOS | Levels of Service |
| LRMS | Linear Road Measurement System |
| LRS | Local Roads Supplement |
| LSU | Lane Signal Unit |
| LTPP | Long Term Procurement Programme or Long-Term Pavement Performance |
| LUD | Land Use Development |
| LWP | Left Wheelpath |

TABLE 1.2: ACRONYMS

| ACRONYM | MEANING |
|----------------|--|
| MASH | Manual for Assessing Safety Hardware |
| MCOS | Minimum Conditions of Satisfaction |
| MIS | Maintenance Intervention Strategy |
| MMP | Maintenance Management Plan |
| MNCS | Monthly Network Compliance Score |
| MOTSAM | Manual of Traffic Signs and Markings |
| MOU | Memorandum of Understanding |
| MPD | Minimum Profile Depth |
| MSE | Mechanically Stabilised Wall |
| MVMS | Mobile Variable Message Sign |
| N/A | Not Applicable |
| NAASRA | National Association of Australian State Road Authorities |
| Nat | National, but not High-Volume, road category as defined by the One Network Road Classification (ONRC). |
| NatHV | National, and High-Volume, road category as defined by the One Network Road Classification (ONRC). |
| NCHRP | National Cooperative Highway Research Program |
| NLTP | National Land Transport Programme |
| NOC | Network Outcomes Contract |
| NZAA | New Zealand Archaeological Association |
| NZTM | New Zealand Transverse Mercator |
| OGPA | Open Graded Porous Asphalt |
| OHDS | Over-Height Detection System |
| ONRC | One Network Road Classification |
| OPM | Operational Performance Measure |
| PCol | Primary Collector road category as defined by the One Network Road Classification (ONRC). |

| TABLE 1.2: ACRONYMS | |
|---------------------|--|
| ACRONYM | MEANING |
| PFR | Project Feasibility Report |
| PPE | Personal Protective Equipment |
| PPFM | Programme, Policy and Funding Manual |
| QMP | Quality Management Plan |
| QWS | Queue Warning Sign |
| RAMM | Road Asset Maintenance Management |
| RAPT | Review and Prioritisation Team |
| RBC | Regional Bridge Consultant |
| RCA | Road Controlling Authority |
| REG | Roading Efficiency Group |
| RFP | Request for Proposal |
| RHS | Right Hand Side |
| RIAWS | Rural Intersection Advanced Warning Sign |
| RLT | Repeated Load Triaxial |
| RLWP | Rut Left Wheelpath |
| RMP | Risk Management Plan |
| RPMP | Regional Pest Management Plan |
| RQP | Rehabilitation Quality Plan |
| RRWP | Rut Right Wheelpath |
| RSMA | Road Safety Manufacturers Association |
| RSS | Rural School Sign |
| RWP | Right Wheelpath |
| SAL | Skid Assessment Length |
| SAP | Systems, Applications, and Products. This is the Principal's financial management system for the management of financials, projects, contracts and property. |

| TABLE 1.2: ACRONYMS | |
|---------------------|---|
| ACRONYM | MEANING |
| SAWS | Speed Activated Warning Sign |
| SCol | Secondary Collector road category as defined by the One Network Road Classification (ONRC). |
| SCMP | Stakeholder and Communication Management Plan |
| SCRIM | Sideway-force Coefficient Routine Investigation Machine |
| SH | State Highway |
| SHAMP | State Highway Asset Management Plan |
| SHCM | State Highway Control Manual |
| SHDOM | State Highway Database Operations Manual |
| SHGDM | Transport Agency's <i>State Highway Geometric Design Manual</i> (DRAFT). |
| SHSNMAM | State Highway Safe Network Management Activity Manual |
| SiD | Safety in Design |
| SID | Speed Indication Device |
| SMS | Slip Monitoring Sign |
| SVSS | School Variable Speed Sign |
| SWC | Surface Water Channel |
| TCD | Traffic Control Devices |
| TCP | Traffic Control Plan |
| TF | Tender Form |
| TIFF | Tagged Image File Format |
| TLA | Territorial Local Authority |
| TMP | Traffic Management Plan |
| TMS | Traffic Monitoring System |
| TOC | Traffic Operations Centre |
| Transport Agency | Waka Kotahi NZ Transport Agency |
| TRI | Total Recordable Injuries |

| TABLE 1.2: ACRONYMS | |
|---------------------|-------------------------------|
| ACRONYM | MEANING |
| TWS | Truck Weighbridge Sign |
| UAV | Unmanned Aerial Vehicle |
| VMS | Variable Message Sign |
| VMSS | Variable Mandatory Speed Sign |
| WAP | Works Access Permit |
| WIM | Weigh in Motion |
| XML | Extensible Markup Language |

1.3 Location of Works

<<Insert Map here>>

1.4 Key Roles within the Principal’s Organisation

| TABLE 1.4: ROLES, RESPONSIBILITIES AND NAMES | | |
|--|--|-----------------|
| ROLE | RESPONSIBILITY | NAME |
| Asset Integrator | <p>The purpose of the Asset Management Integrator role is to consistently develop and implement best practice asset management across the transport system that deliver value and benefits to our customers.</p> <p>Key Accountabilities include;</p> <ul style="list-style-type: none"> • Leadership in asset management decisions • Raise sector capability in Asset Management competency • Assist and guide the system management teams in developing Annual Plans, 3 and 10 year programmes • Ensure maintenance and operations solutions are prioritised efficiently and realise customer benefits • Undertaking robust independent reviews to help embed good asset management practices from Quality Management and Maintenance Management Plans • Support the expedited recovery of the Network following an emergency event • Demonstrate strong commercial acumen in reviewing contract issues and developing pragmatic solutions. | <<to complete>> |
| Consents and Approvals planners | <p>The Consents and Approvals planners operate as the Principal’s representative on the planning and consenting aspects of state highway projects and maintenance activities with a focus on ensuring all relevant environmental requirements/obligations/risks are identified and adequately addressed</p> | <<to complete>> |
| Contract Board | <p>Review contract progress in terms of physical achievement and contract performance measures, and provide strategic support to the Supplier’s Contract Manager and the Engineer’s Representative.</p> <p>Resolving conflict.</p> <p>Make recommendations on contractual points.</p> | <<to complete>> |

| TABLE 1.4: ROLES, RESPONSIBILITIES AND NAMES | | |
|--|--|-----------------|
| ROLE | RESPONSIBILITY | NAME |
| Journey Manager | <p>The Journey Manager looks beyond the day to day operations of the transport system using influence to continuously improve how the network is operated for customers.</p> <p>Key aspects of the role include:</p> <ul style="list-style-type: none"> • Understanding customer issues through customer insight & local relationships • Optimisation planning advice such as that needed to deliver low cost – low risk improvements to the operation of the network. • Operations planning advice to support planned and unplanned events and emergency management activities using tools like network operating plans and network activity planning. • Operations delivery support for regionally or nationally significant events, especially when Civil Defence are involved. | <<to complete>> |
| Maintenance Contract Manager | <p>The Maintenance Contract Manager operates as the Engineer’s representative</p> <p>Key aspects of the role include:</p> <ul style="list-style-type: none"> • Administering the contract in adherence to the principles of NZS3917 under the delegation of the powers of the Engineer to Contract. • The key link to promote and ensure healthy working relationships exists between both parties. • Responsible for ensuring the outcomes of the contract are delivered. • Responsible for representing and treating both parties in a fair and professional manner in accordance with the guiding principles of the contract and NZS 3917. | <<to complete>> |
| Manager - Systems Management | <p>Leads the Principal’s System Management team in the Region. Local representative on regional governance groups and spokesperson for communications with public and stakeholders. Responsible for performance of the Network.</p> <p>Ensures staff have appropriate guidance.</p> <p>Ensures Principal’s priorities are clearly communicated.</p> | <<to complete>> |

TABLE 1.4: ROLES, RESPONSIBILITIES AND NAMES

| ROLE | RESPONSIBILITY | NAME |
|----------------------|--|-----------------|
| Moderation Team | <p>A small team consisting of a rotation of Maintenance Contract Managers and Network Managers, Principal Advisor Business Asset and Information Manager and Business analysts.</p> <p>The key role of the moderation team is to review and moderate as necessary the KRA results to ensure national consistency of scoring.</p> | <<to complete>> |
| Senior Manager Maori | Provide high level oversight on the development of Maori Engagement Plans. | <<to complete>> |
| Network Manager | <p>The Network Manager is responsible for the condition of the Network to meet customer levels of service defined by the One Network Road Classification.</p> <p>Key aspects of the role include:</p> <ul style="list-style-type: none"> • Forward works planning • Performance of assets • Corridor/network operations • Resilience/risk management. <p>The Network Manager is also responsible for the planning and delivery of improvements works and needs of the Network.</p> | <<to complete>> |

TABLE 1.4: ROLES, RESPONSIBILITIES AND NAMES

| ROLE | RESPONSIBILITY | NAME |
|-----------------|---|-----------------|
| Safety Engineer | <p>The Safety Engineer works across the organisation to create a safe transport system, reducing deaths and serious injuries on the Network.</p> <p>Key roles include:</p> <ul style="list-style-type: none"> • providing safety oversight in planning • design of the improvement programme • advice and guidance on safety standards • support the network management team and contractors for best safety outcomes • close involvement in the work on safe road use and safe vehicles pillars of the safe system • Manage the low cost low risk safety programme – including development, review and monitoring delivery • Road Safety Management – Strategy development and monitoring • Attend contract safety liaison and safety management meetings. Input to crash reduction study management and process. • Input to the safety in design process on construction projects. | <<to complete>> |
| TOC Operators | <p>TOC Operators act as a communication hub when responding to traffic incidents around the Network, using data from different sources, including CCTV, Police and Emergency Services, and contractors. Traffic flow can be efficiently managed and road users kept informed.</p> | |
| <<to complete>> | | |

1.5 Network Extents

| TABLE 1.5.1: ROAD EXTENTS FOR THE TRANSPORT AGENCY | | | | | |
|--|------------------|----------------|-----------------------|---------------|-----|
| ROAD NAME | START DISPL. (M) | END DISPL. (M) | CENTRELINE LENGTH (M) | ONRC CATEGORY | RCA |
| CoPTTM Level 1 Roads | | | | | |
| <<to complete>> | | | | | |
| | | | | | |
| Total Length (m) | | | | | |
| CoPTTM Level 2 Roads | | | | | |
| <<to complete>> | | | | | |
| | | | | | |
| Total Length (m) | | | | | |
| CoPTTM Level 3 Roads | | | | | |
| <<to complete>> | | | | | |
| | | | | | |
| Total Length (m) | | | | | |
| OVERALL TOTAL LENGTH (m) | | | | | |

| TABLE 1.5.2: ROAD EXTENTS FOR THE XXXXXX DISTRICT COUNCIL | | | | | |
|--|------------------|----------------|-----------------------|---------------|-----|
| ROAD NAME | START DISPL. (M) | END DISPL. (M) | CENTRELINE LENGTH (M) | ONRC CATEGORY | RCA |
| <<state CoPTTM level>> | | | | | |
| <<to complete>> | | | | | |
| | | | | | |
| Total Length (m) | | | | | |
| <<state CoPTTM level>> | | | | | |

| TABLE 1.5.2: ROAD EXTENTS FOR THE XXXXXX DISTRICT COUNCIL | | | | | |
|--|------------------|----------------|-----------------------|---------------|-----|
| ROAD NAME | START DISPL. (M) | END DISPL. (M) | CENTRELINE LENGTH (M) | ONRC CATEGORY | RCA |
| <<to complete>> | | | | | |
| Total Length (m) | | | | | |
| <<state CoPTTM level>> | | | | | |
| <<to complete>> | | | | | |
| Total Length (m) | | | | | |
| OVERALL TOTAL LENGTH (m) | | | | | |

| TABLE 1.5.3: PEDESTRIAN, CYCLE, MOTORCYCLE AND BRIDLE ROUTE EXTENTS | | | | |
|---|------------------|----------------|-----------------------|-----|
| ROAD NAME | START DISPL. (M) | END DISPL. (M) | CENTRELINE LENGTH (M) | RCA |
| Shoulders on Designated Cycle Routes | | | | |
| <<to complete>> | | | | |
| Total Length (m) | | | | |
| Cycle Lanes | | | | |
| <<to complete>> | | | | |
| Total Length (m) | | | | |
| High Risk and Favoured Motorcycle Routes | | | | |

TABLE 1.5.3: PEDESTRIAN, CYCLE, MOTORCYCLE AND BRIDLE ROUTE EXTENTS

| ROAD NAME | START DISPL. (M) | END DISPL. (M) | CENTRELINE LENGTH (M) | RCA |
|----------------------------|------------------|----------------|-----------------------|-----|
| <<to complete>> | | | | |
| Total Length (m) | | | | |
| Separated Cycleways | | | | |
| <<to complete>> | | | | |
| Total Length (m) | | | | |
| Shared Paths | | | | |
| <<to complete>> | | | | |
| Total Length (m) | | | | |
| Bridle Paths | | | | |
| <<to complete>> | | | | |
| Total Length (m) | | | | |

<<NOC specific cycle map to be included – refer to SD&D OPPP Safe and Sustainable Transport Team for assistance>>

1.6 Specific Distances between the Centreline and the Legal Road Boundary

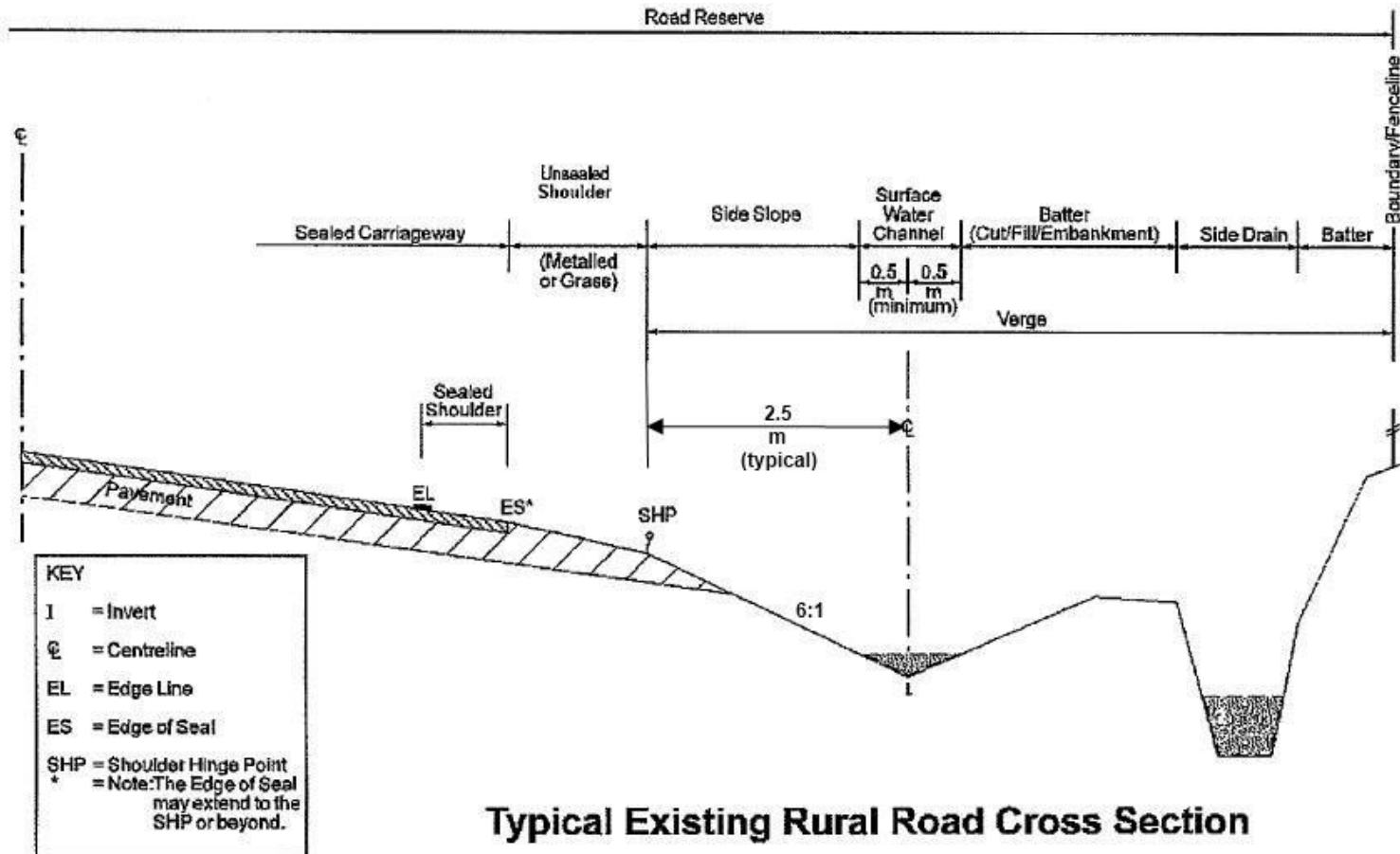
TABLE 1.6: SPECIFIC DISTANCES BETWEEN THE CENTRELINE AND THE LEGAL ROAD BOUNDARY

| ROAD NAME | START DISPL. (M) | END DISPL. (M) | LENGTH (M) | DESCRIPTION OF LIMIT |
|-----------------|------------------|----------------|------------|----------------------|
| <<to complete>> | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

The distances specified in Table 1.6 above take precedent to any maintenance responsibility maps provided in Appendix 1.8.

<<state any other documentation relevant to defining the legal road boundary, such as online information.>>

1.7 Typical Cross-section for Drainage Renewals



1.8 Maintenance Responsibility Maps

<<Insert Responsibility Maps here>>

<<State any other documentation relevant to defining the maintenance responsibility zones, such as online information.>>

1.9 Current Local Authority Maintenance Agreements (MOU)

<<Insert MOUs here>>

2 VALUE MANAGEMENT PROPOSITION

2.1 Operational Performance Measures

2.1.1 Introduction

The Key Result Area (KRA) and Key Performance Indicator (KPI) framework is a new contract performance management system for this contract. The performance framework is aligned to the required contract outcomes and the strategic objectives of the Principal.

The purpose of the framework is to make it easier for the partners of the contract relationship to measure, discuss and improve performance. Performance measurement will form the basis for all parties to work together to find opportunities for improved performance. Areas of high performance will be acknowledged and rewarded. Performance measurement provides the context for any areas of poor performance to be addressed.

This Guideline provides further detail on the framework for the KRA and KPI elements of the Contract Document. It does not relate to the at-risk payment mechanism for compliance with the operational performance measures (OPMs).

The design and implementation of the Performance Framework is intended to keep the Contractor's quality, performance and relationship strategies firmly in line with the Principal's responsibilities to government direction.

The Guide to the KRA Performance Framework can be found at:

<https://nzta.govt.nz/roads-and-rail/highways-information-portal/technical-disciplines/network-outcomes-contracts/resources-and-manuals/guidelines-and-reference-documents/>

2.2 OPM Sample Size and Audit Frequencies

| OPM SAMPLE SIZES AND AUDIT FREQUENCIES | | | | | | | | | | | | | | | | | |
|--|-----|----------------------------|------------|------------|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | |
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE |
| Safety | 1 | Key Reporting | All Roads | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Safety | 2 | Skid Resistance Management | All Roads | 100% | Annually | | | | | | | | | | | | <input checked="" type="checkbox"/> |
| Customer Facing | 3 | TMP Approvals and Audits | All Roads | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 4 | | All Roads | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 5 | | All Roads | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 6 | CAR processing | All Roads | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 7 | Geological Threats | All Roads | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 8 | | NatHV(M&E) | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

OPM SAMPLE SIZES AND AUDIT FREQUENCIES

| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | | |
|-----------------|-----|------------------------------|---|------------|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | |
| Customer Facing | 9 | Surface Bumps (Sealed Roads) | All Roads (except NatHV(M&E)) | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Customer Facing | 10 | | AccLV | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Customer Facing | 11 | Potholes (Sealed Roads) | NatHV(M&E) | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Customer Facing | 12 | | NatHV, Nat | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Customer Facing | 13 | | Reg, Art | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Customer Facing | 14 | | PCol, SCol, Acc, AccLV | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Safety | 15 | | All Roads | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 16 | | Deformations, Heaves, Shoves (Sealed Roads) | NatHV(M&E) | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 17 | | | NatHV, Nat | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 18 | Reg, Art | | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |

OPM SAMPLE SIZES AND AUDIT FREQUENCIES

| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | |
|-----------------|-----|--------------------------------------|-----------------------------|------------|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE |
| Asset Condition | 19 | | PCol, SCol, Acc, AccLV | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Safety | 20 | | All Roads | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 21 | Rutting | All Roads | 100% | Annually | | | | | | | | | | | <input checked="" type="checkbox"/> | |
| Asset Condition | 161 | Flushing and Scabbing | All Roads | 100% | Annually | | | | | | | | | | | <input checked="" type="checkbox"/> | |
| Asset Condition | 162 | Flushing and Scabbing (Sealed Roads) | All Roads | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 163 | | All Roads | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 22 | Edge Break (Sealed Roads) | NatHV(M&E), NatHV, Nat, Reg | 10% | 2 Monthly | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | |
| Asset Condition | 23 | | Art, PCol, SCol | 10% | 2 Monthly | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | |
| Asset Condition | 24 | | Acc, AccLV | 10% | 2 Monthly | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | |
| Safety | 25 | | All Roads | 10% | 2 Monthly | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | |

OPM SAMPLE SIZES AND AUDIT FREQUENCIES

| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | |
|-----------------|-----|--|----------------------------------|------------|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE |
| Asset Condition | 26 | Shoulder Maintenance (Sealed Roads) | All Roads | 10% | 2 Monthly | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | |
| Asset Condition | 27 | | All Roads | 10% | 2 Monthly | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | |
| Asset Condition | 28 | | All Roads | 10% | 2 Monthly | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | |
| Customer Facing | 29 | Repair Quality (Sealed Roads) | NatHV(M&E) | 10% | 2 Monthly | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | |
| Customer Facing | 29A | | NatHV, Nat | 10% | 2 Monthly | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | |
| Customer Facing | 30 | | Reg, Art, PCol, SCol, Acc, AccLV | 10% | 2 Monthly | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | |
| Customer Facing | 31 | Reinstatement of Sites after any Completed Works | NatHV(M&E) | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 32 | | All Roads (except NatHV(M&E)) | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 33 | | All Roads | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

OPM SAMPLE SIZES AND AUDIT FREQUENCIES

| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | | |
|-----------------|-----|---|------------------|------------|-----------|--------------------|--------|-----------|---------|----------|----------|---------|----------|-------|-------|-----|-------------------------------------|-------------------------------------|
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | |
| Customer Facing | 34 | Pavement Rehabilitation Rework | All Roads | 100% | Annually | | | | | | | | | | | | <input checked="" type="checkbox"/> | |
| Customer Facing | 35 | Pavement Rehabilitation Post-Construction Surface Shape Restoration | All Roads (Chip) | 100% | Annually | | | | | | | | | | | | <input checked="" type="checkbox"/> | |
| Safety | 36 | AC Surfacing Rework | All Roads (AC) | 100% | Annually | | | | | | | | | | | | <input checked="" type="checkbox"/> | |
| Customer Facing | 38 | AC Surfacing Rework | All Roads | 100% | Annually | | | | | | | | | | | | <input checked="" type="checkbox"/> | |
| Customer Facing | 39 | | All Roads | 100% | Annually | | | | | | | | | | | | <input checked="" type="checkbox"/> | |
| Asset Condition | 40 | Non-vulnerable Sumps, Manholes, Catchpits and Outflow Control Devices | All Roads | 100% | Annually | | | | | | | | | | | | | <input checked="" type="checkbox"/> |
| Asset Condition | 41 | Non-vulnerable Culverts, Subsoil, Horizontal | All Roads | 100% | Annually | | | | | | | | | | | | | <input checked="" type="checkbox"/> |
| Asset Condition | 42 | | All Roads | 100% | Annually | | | | | | | | | | | | | <input checked="" type="checkbox"/> |

OPM SAMPLE SIZES AND AUDIT FREQUENCIES

| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | | | |
|-----------------|-----|--|--|------------|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | | |
| Asset Condition | 43 | Drains and Outflow Control Devices | All Roads | 100% | Annually | | | | | | | | | | | | | <input checked="" type="checkbox"/> | |
| Asset Condition | 44 | Surface Water Channels | NatHV(M&E) | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Asset Condition | 45 | | NatHV, Nat, Reg, Art | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 46 | | PCol, SCol, Acc, AccLV | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 47 | | NatHV(M&E) | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 48 | | NatHV, Nat, Reg, Art, PCol, SCol, Acc, AccLV | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 49 | Reported Lane Flooding | NatHV(M&E) | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Safety | 50 | Vulnerable and High Value Flooding Areas | All Roads | 100% | 2 Monthly | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | |
| Asset Condition | 51 | | All Roads | 100% | 2 Monthly | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | |

| OPM SAMPLE SIZES AND AUDIT FREQUENCIES | | | | | | | | | | | | | | | | | |
|--|-----|--|--|------------|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------|-------------------------------------|---------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|------|
| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | |
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE |
| Asset Condition | 52 | Bridge and Other Structures Maintenance | NatHV(M&E) | 10% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | |
| Asset Condition | 53 | | NatHV, Nat, Reg, Art, PCol, SCol, Acc, AccLV | 10% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | |
| Asset Condition | 54 | | All Roads | 10% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | |
| Safety | 55 | Barrier, End Treatment and Rail Damage Repairs | NatHV(M&E), NatHV | 100% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | |
| Safety | 56 | | Nat, Reg | 100% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | |
| Safety | 57 | | Art, PCol, SCol, Acc, AccLV | 100% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | |
| Safety | 58 | | All Roads | 100% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | |
| Safety | 59 | | All Roads | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | | | | | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |

OPM SAMPLE SIZES AND AUDIT FREQUENCIES

| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | |
|-----------------|-----|---|------------------------|------------|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE |
| Safety | 60 | Frost, Ice Gritting and Snow Clearance – Mobilise and Establish On Site | All Roads | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Safety | 61 | Ice Gritting and CMA – Treatment Decisions and Compliance | All Roads | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 62 | Snow Clearing - Response | All Roads | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 63 | Vegetation Control - General | All Roads | 10% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> |
| Customer Facing | 64 | | All Roads | 10% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> |
| Customer Facing | 65 | | NatHV(M&E), NatHV, Nat | 10% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> |
| Customer Facing | 66 | | Reg | 10% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> |

OPM SAMPLE SIZES AND AUDIT FREQUENCIES

| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | |
|-----------------|-----|-------------------|-------------------------------|------------|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE |
| Customer Facing | 67 | | Art, PCol, SCol, Acc, AccLV | 10% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> |
| Customer Facing | 68 | | NatHV(M&E) | 10% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> |
| Customer Facing | 69 | | All Roads (except NatHV(M&E)) | 10% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> |
| Customer Facing | 70 | | All Roads | 10% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> |
| Customer Facing | 71 | | All Roads | 10% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> |
| Asset Condition | 72 | | NatHV(M&E) | 10% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> |
| Asset Condition | 73 | | All Roads | 10% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> |
| Asset Condition | 164 | | All Roads (except NatHV(M&E)) | 10% | 2 Monthly | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> |
| Customer Facing | 74 | Litter Collection | NatHV(M&E) | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

OPM SAMPLE SIZES AND AUDIT FREQUENCIES

| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | |
|-----------------|-----|---|-------------------------------|------------|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE |
| Customer Facing | 75 | | All Roads (except NatHV(M&E)) | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 76 | | NatHV(M&E) | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 77 | | All Roads (except NatHV(M&E)) | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 78 | Detritus | NatHV(M&E) | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 79 | | NatHV, Nat | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 80 | | Reg, Art, PCol, SCol | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 81 | | Acc, AccLV | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 82 | Rest Area, Heavy Commercial Vehicle Facility and Formed | NatHV(M&E), NatHV, Nat, Reg | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 83 | | Art, PCol, SCol, Acc, AccLV | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

OPM SAMPLE SIZES AND AUDIT FREQUENCIES

| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | |
|-----------------|-----|---------------------------|--|------------|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE |
| Customer Facing | 84 | Stopping Area Maintenance | NatHV(M&E) | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 85 | | All Roads (except NatHV(M&E)) | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 86 | | All Roads | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 87 | | NatHV(M&E) | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 88 | | All Roads (except NatHV(M&E)) | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 89 | | All Roads | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 90 | Graffiti Removal | NatHV(M&E) | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 91 | | NatHV, Nat, Reg, Art, PCol, SCol, Acc, AccLV | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Safety | 92 | Signs | All Roads | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

OPM SAMPLE SIZES AND AUDIT FREQUENCIES

| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | |
|-----------------|-----|-------------------------|------------|------------|--------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE |
| Asset Condition | 93 | | All Roads | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Safety | 94 | | All Roads | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 95 | | All Roads | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 96 | Frangible Signs | All Roads | 100% | Annually | | | | | | | <input checked="" type="checkbox"/> | | | | | |
| Customer Facing | 97 | Raised Pavement Markers | All Roads | 100% | 6 Monthly | | | | <input checked="" type="checkbox"/> | | | | | | | <input checked="" type="checkbox"/> | |
| Safety | 98 | | All Roads | 100% | 6 Monthly at night | | | | <input checked="" type="checkbox"/> | | | | | | | <input checked="" type="checkbox"/> | |
| Asset Condition | 99 | Raised Pavement Markers | All Roads | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 100 | Edge Marker Posts | All Roads | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Safety | 101 | Edge Marker Posts | All Roads | 100% | 6 Monthly at night | | | | <input checked="" type="checkbox"/> | | | | | | <input checked="" type="checkbox"/> | | |

| OPM SAMPLE SIZES AND AUDIT FREQUENCIES | | | | | | | | | | | | | | | | | |
|--|-----|---|----------------------------------|------------|--------------------|-------------------------------------|--------|-------------------------------------|-------------------------------------|-------------------------------------|----------|-------------------------------------|----------|-------------------------------------|-------------------------------------|-------------------------------------|------|
| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | |
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE |
| Asset Condition | 102 | Culvert Marker Posts | NatHV(M&E) | 10% | 2 Monthly | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | |
| Asset Condition | 103 | | All Roads (except NatHV(M&E)) | 10% | 2 Monthly | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | | <input checked="" type="checkbox"/> | |
| Asset Condition | 104 | Transport Agency P/22 Pavement Marking – Lines, Text, Symbols, etc. | All Roads | 100% | Bi-Annually | | | | | <input checked="" type="checkbox"/> | | | | | | <input checked="" type="checkbox"/> | |
| Safety | 105 | Carriageway Lighting | All Roads | 100% | Quarterly at night | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | |
| Asset Condition | 106 | | NatHV(M&E) | 100% | Quarterly at night | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | |
| Asset Condition | 107 | | NatHV, Nat | 100% | Quarterly at night | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | |
| Asset Condition | 108 | | Reg, Art, PCol, SCol, Acc, AcclV | 100% | Quarterly at night | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | |
| Asset Condition | 109 | | NatHV(M&E) | 100% | Quarterly at night | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | |

| OPM SAMPLE SIZES AND AUDIT FREQUENCIES | | | | | | | | | | | | | | | | | |
|--|-----|------------------------------|-------------------------------|------------|--------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | |
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE |
| Asset Condition | 110 | | All Roads (except NatHV(M&E)) | 100% | Quarterly at night | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | |
| Asset Condition | 111 | | NatHV(M&E) | 100% | Quarterly at night | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | | <input checked="" type="checkbox"/> | | |
| Asset Condition | 112 | Carriageway Light Slip Bases | All Roads | 100% | Annually | | | | | | | <input checked="" type="checkbox"/> | | | | | |
| Customer Facing | 113 | Incident Response Management | NatHV(M&E) | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 114 | | NatHV, Nat, Reg, Art | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 115 | | PCol, SCol, Acc, AccLV | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 116 | | NatHV(M&E) | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 117 | | All Roads (Not NatHV(M&E)) | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 118 | | All Roads | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

OPM SAMPLE SIZES AND AUDIT FREQUENCIES

| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | | |
|----------|-----|----------------------------|--|------------|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE | |
| Safety | 119 | Sealed Route Surface Bumps | Favoured Motorcycle Routes | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Safety | 120 | | Shoulders on Designated Cycle Routes and all Cycle Lanes | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Safety | 121 | | Cycle Paths | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Safety | 122 | Sealed Route Potholes | High Risk and Favoured Motorcycle Routes | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Safety | 123 | | Shoulders on Designated Cycle Routes and all Cycle Lanes | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Safety | 125 | | Cycle Paths | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

| OPM SAMPLE SIZES AND AUDIT FREQUENCIES | | | | | | | | | | | | | | | | | |
|--|-----|--|--|------------|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | |
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE |
| Safety | 126 | Sealed Route Deformations, Heaves and Shoves | High Risk and Favoured Motorcycle Routes | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Safety | 127 | | Shoulders on Designated Cycle Routes and all Cycle Lanes | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Safety | 129 | | Cycle Paths | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Safety | 130 | Sealed Route Edge Breaks | High Risk and Favoured Motorcycle Routes | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Safety | 131 | | Shoulders on Designated Cycle Routes and all Cycle Lanes | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Safety | 132 | | Cycle Paths | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

OPM SAMPLE SIZES AND AUDIT FREQUENCIES

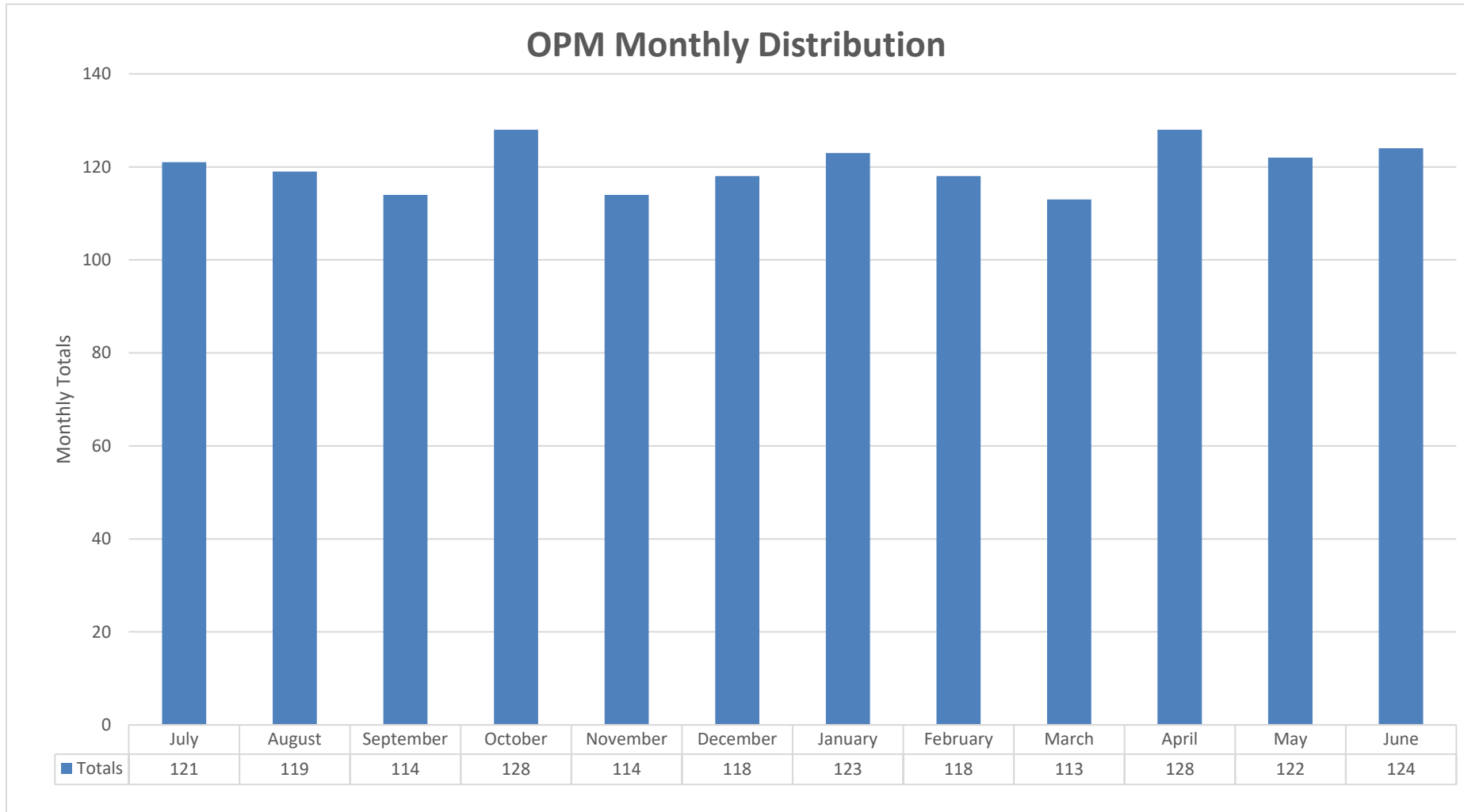
| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | |
|-----------------|-----|-----------------------------------|--|------------|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE |
| Customer Facing | 133 | | Cycle Lanes | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 134 | Sealed Route Shoulder Maintenance | Shoulders on Designated Cycle Routes | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 135 | | Cycle Paths | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 136 | Unsealed Route Surface Bumps | Cycle Paths | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 138 | Unsealed Route Potholes | Cycle Paths | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 140 | Route Vegetation Control | All Routes | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Safety | 141 | Route Litter and Detritus Removal | High Risk and Favoured Motorcycle Routes | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

| OPM SAMPLE SIZES AND AUDIT FREQUENCIES | | | | | | | | | | | | | | | | | |
|--|-----|-------------------------------|--|------------|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | |
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE |
| Safety | 142 | | Shoulders on Designated Cycle Routes and all Cycle Lanes | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 145 | | Cycle Paths (sealed) | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 146 | | Cycle Paths (unsealed) | | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 147 | Potholes (Unsealed Roads) | PCol, SCol | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 148 | | Acc | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 149 | | AccLV | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 150 | Corrugations (Unsealed Roads) | PCol, SCol, Acc | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 151 | | AccLV | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Safety | 152 | Loose Metal (Unsealed Roads) | PCol, SCol, Acc, AccLV | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

| OPM SAMPLE SIZES AND AUDIT FREQUENCIES | | | | | | | | | | | | | | | | | |
|--|-----|--|---|------------|-----------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| OPM TYPE | OPM | NAME | ROAD CLASS | AUDIT SIZE | FREQUENCY | REPORTING INTERVAL | | | | | | | | | | | |
| | | | | | | JULY | AUGUST | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY | FEBRUARY | MARCH | APRIL | MAY | JUNE |
| Safety | 153 | Deformations, Heaves and Shoves (Unsealed Roads) | All Roads | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 154 | Drainage (Unsealed Roads) | PCol, SCol | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 155 | | Acc | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Asset Condition | 156 | | AccLV | 10% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 157 | Incident Response | All Roads (within defined enhanced response area) | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 158 | | | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 159 | | | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Customer Facing | 160 | Traffic Congestion Management | All Roads | 100% | Monthly | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| MONTHLY TOTALS | | | | | | 121 | 119 | 114 | 128 | 114 | 118 | 123 | 118 | 113 | 128 | 122 | 124 |

<<insert Contract Name>>
Network Outcomes Contract
Contract No: <<insert no>>

Waka Kotahi NZ Transport Agency
Appendices



2.3 Visual Audit Guideline

This is found online as Appendix 2.3 at the web address:

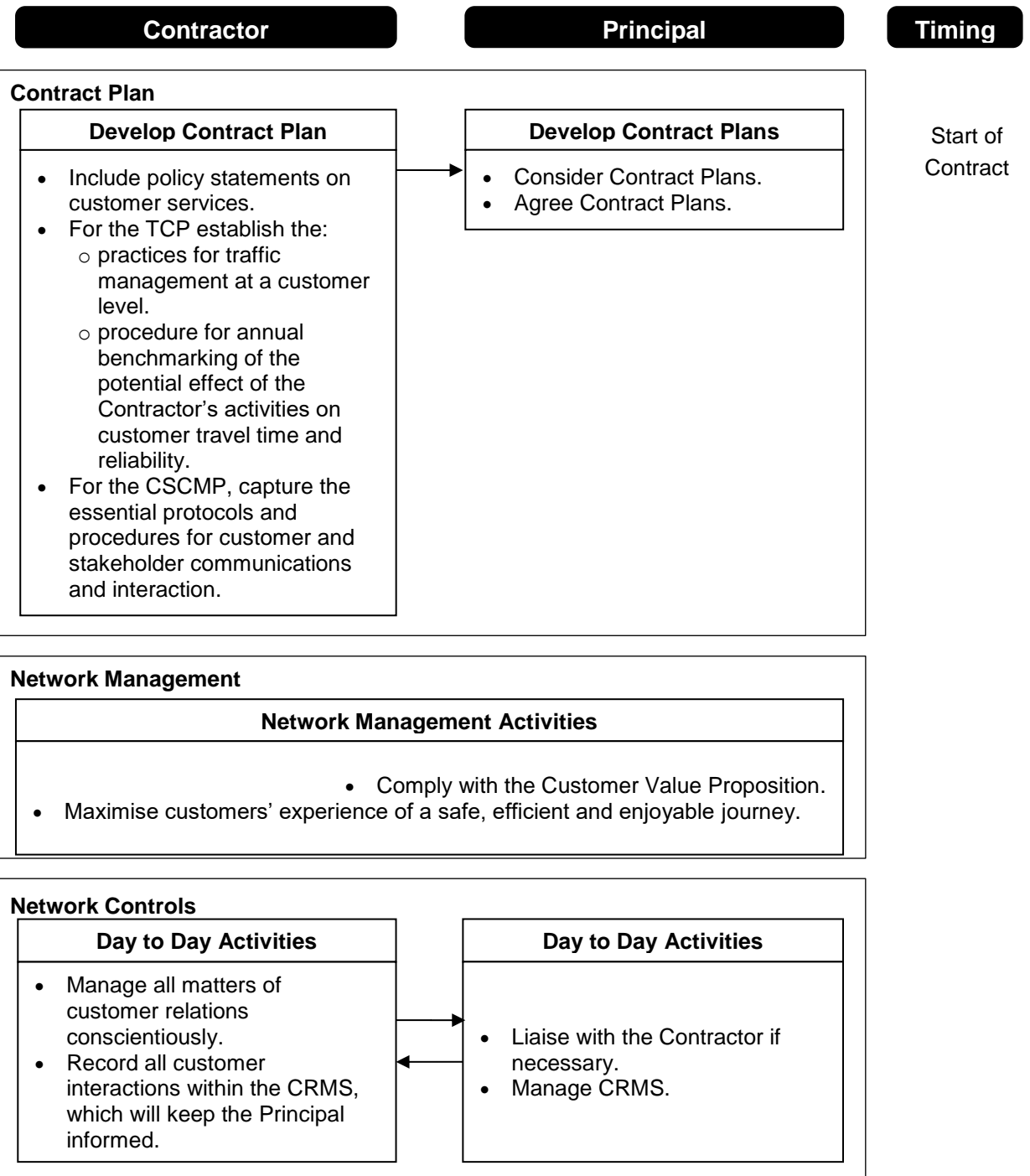
<http://www.nzta.govt.nz/resources/state-highway-maintenance-contract-proforma-manual/>

2.4 Process Maps

The following Process Maps have been developed to assist the Contractor in better understanding the various processes required within this contract.

| TABLE 2.4: PROCESS MAPS | |
|--|--|
| APPLICABLE REFERENCE | DESCRIPTION |
| Maintenance Specification, 1.5 | Customer Service |
| Maintenance Specification, 2.3.3/3.6.1 | Defect Intervention Options |
| Maintenance Specification, 2.4.4/5.2.5 | Management of 3-yearly NLTP Pavement Rehabilitation Quantity |
| Maintenance Specification, 2.4.4/5.2.2 | FWP Development |
| Maintenance Specification, 2.4.4/5.2.4 | Annual Renewals Programme Development |
| Maintenance Specification, 5.8 | Road Safety Management |
| Maintenance Specification, 2.5.4/5.2.5 | Management of Annual Resurfacing Quantity |
| Maintenance Specification, 5.3.1/5.3.2 | Annual Renewals Design and Construct |

| Customer Service | | | Process Map |
|-----------------------|----------------------------------|------------------|-------------|
| Specification Section | 2.0 Value Management Proposition | Clause Reference | 2.0 |

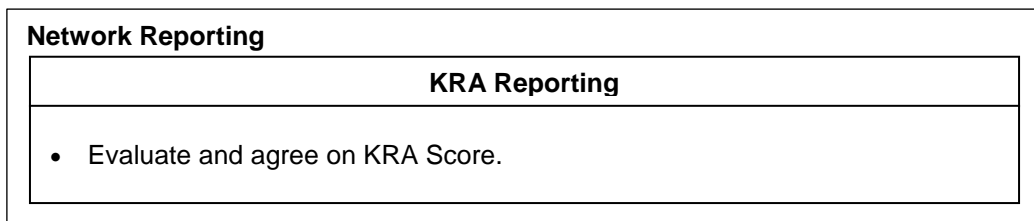
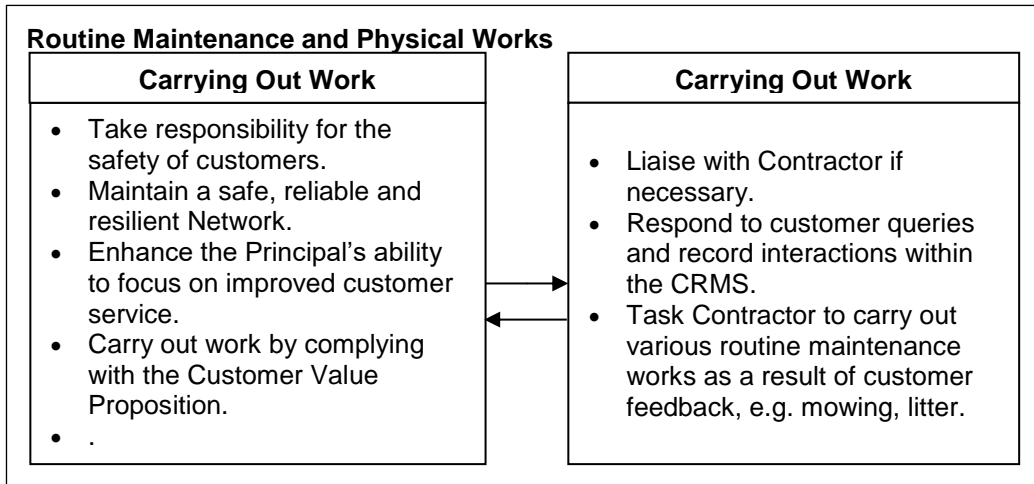


| Customer Service | | | Process Map |
|-----------------------|----------------------------------|------------------|-------------|
| Specification Section | 2.0 Value Management Proposition | Clause Reference | 2.0 |

Contractor

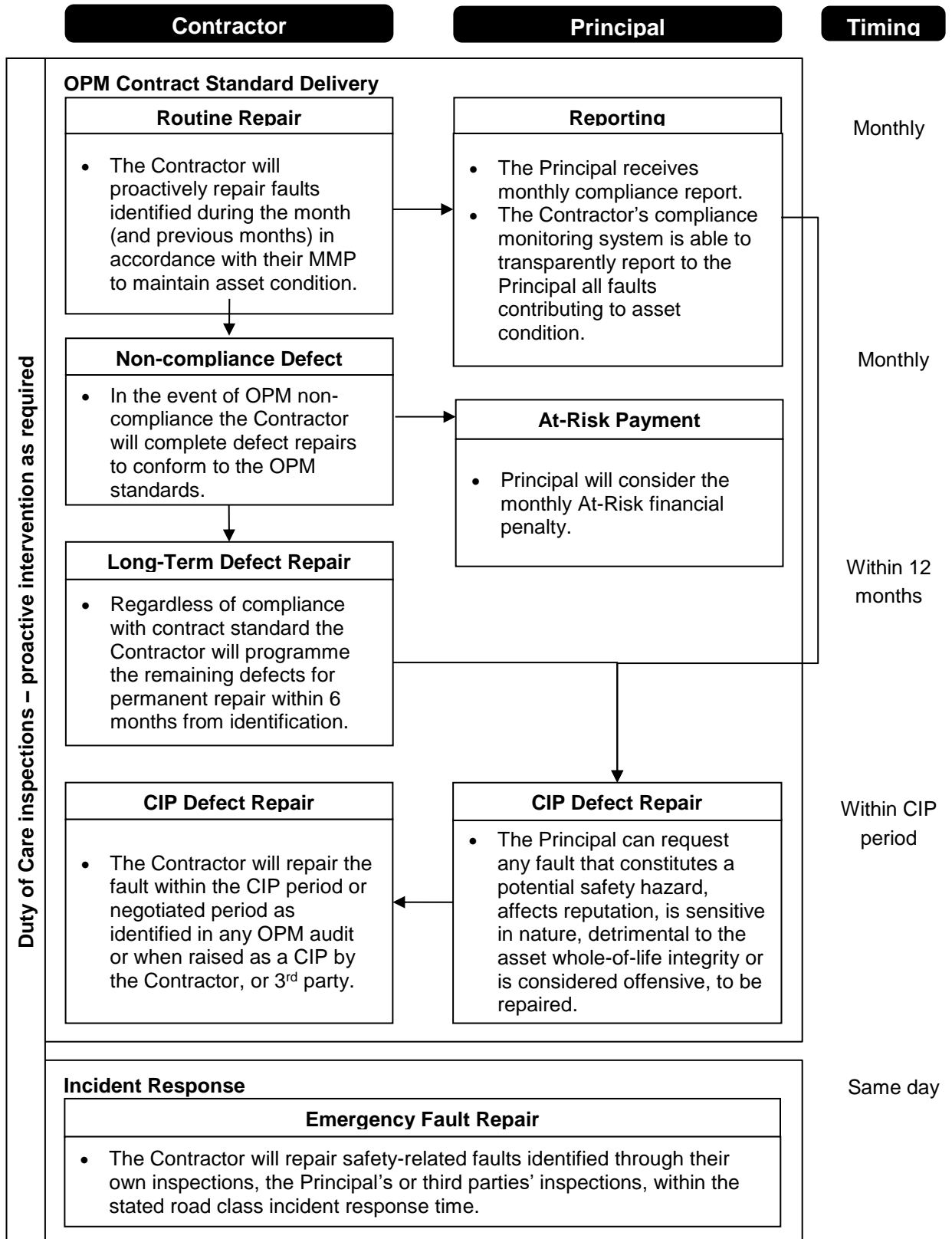
Principal

Timing

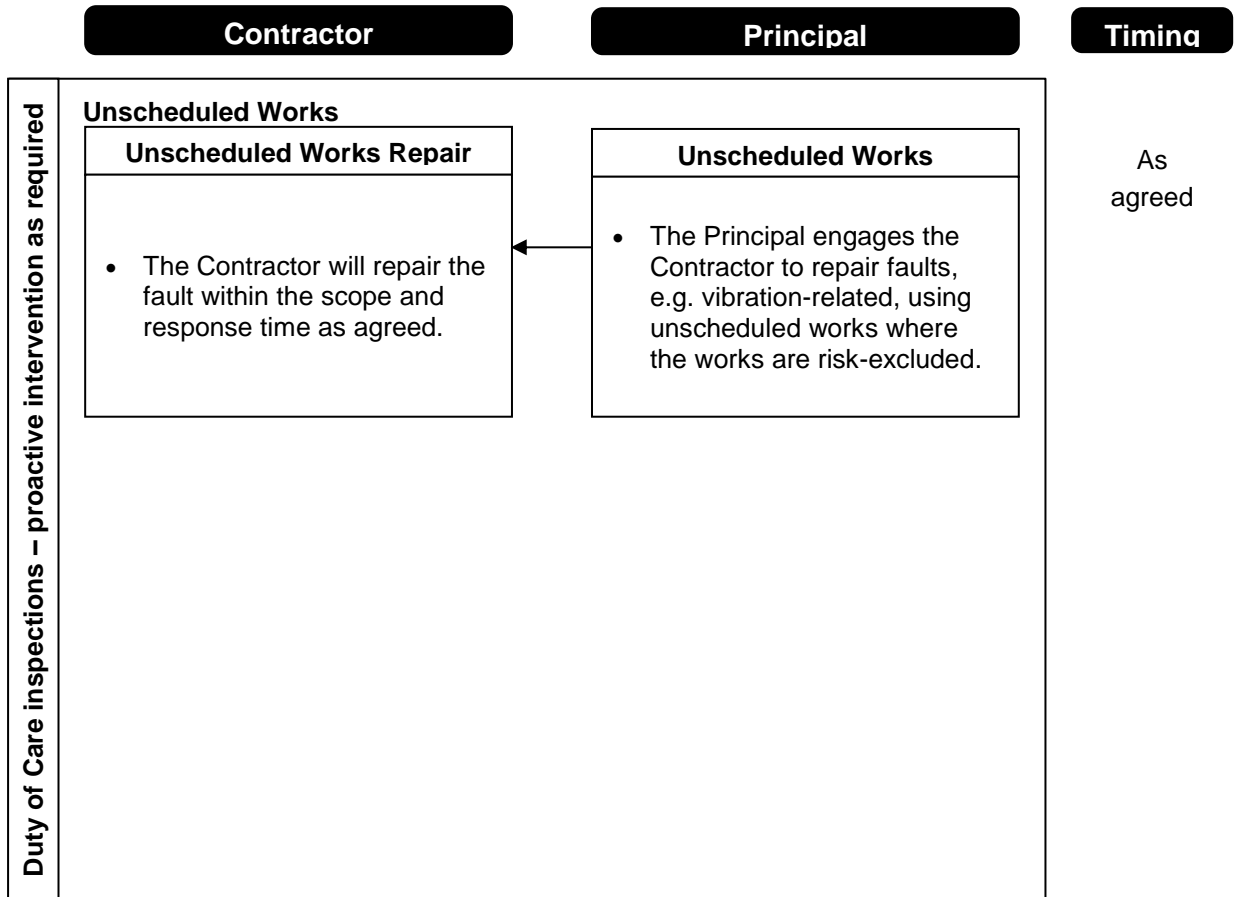


Annually

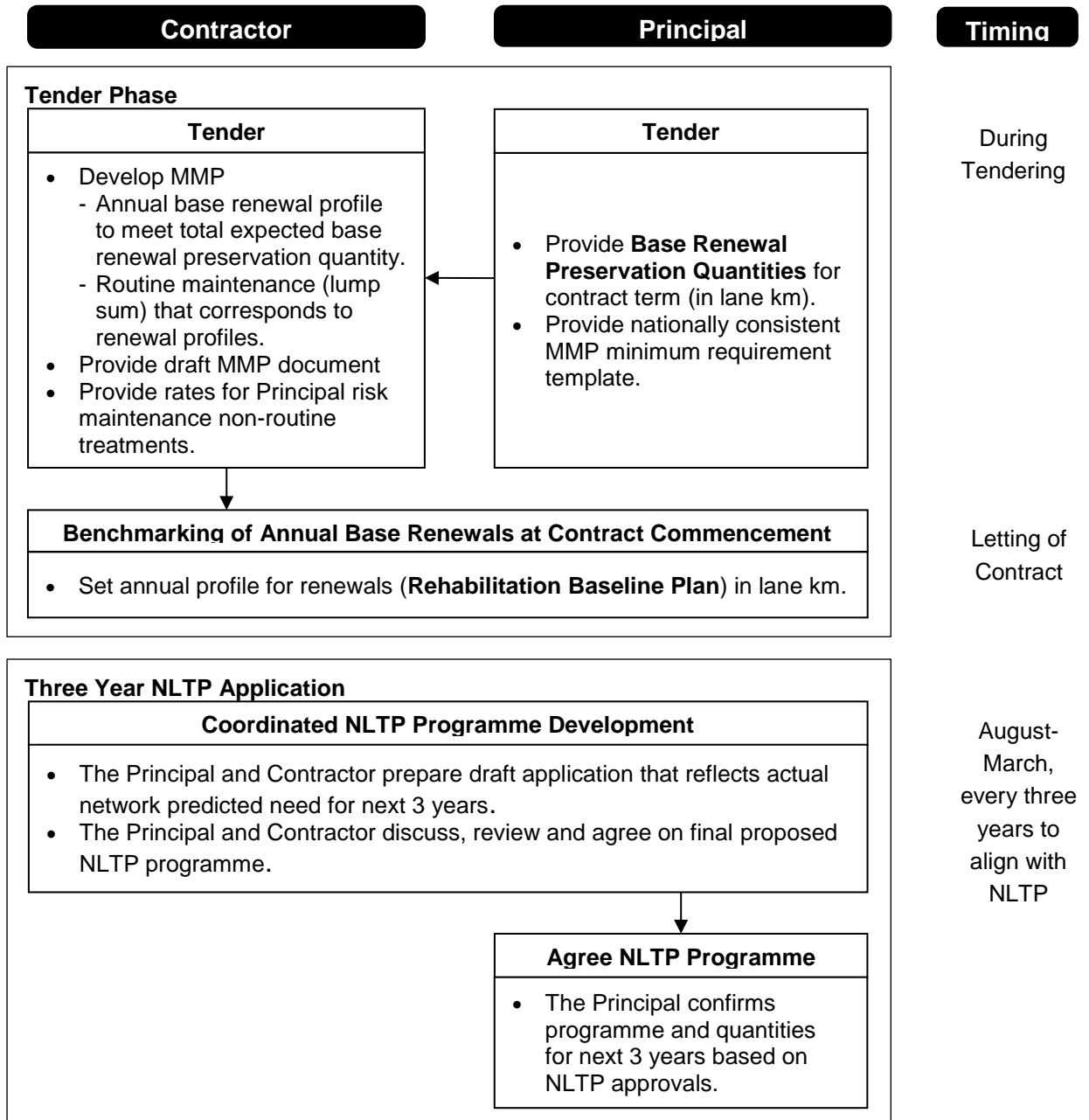
| Fault Intervention Options | | | Process Map |
|----------------------------|----------------------------------|------------------|---------------|
| Specification Section | 2.0 Value Management Proposition | Clause Reference | 2.3.3 / 3.6.1 |



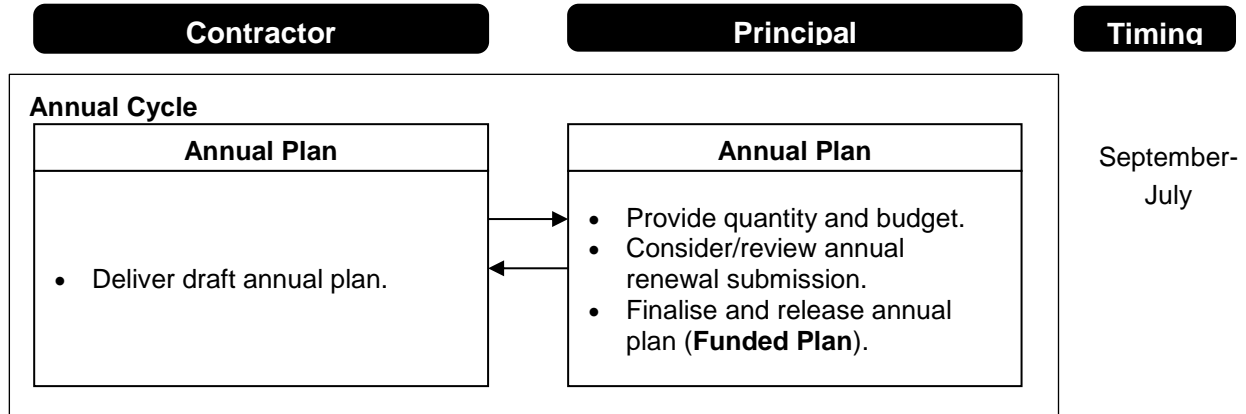
| Fault Intervention Options | | | Process Map |
|----------------------------|----------------------------------|------------------|---------------|
| Specification Section | 2.0 Value Management Proposition | Clause Reference | 2.3.3 / 3.6.1 |



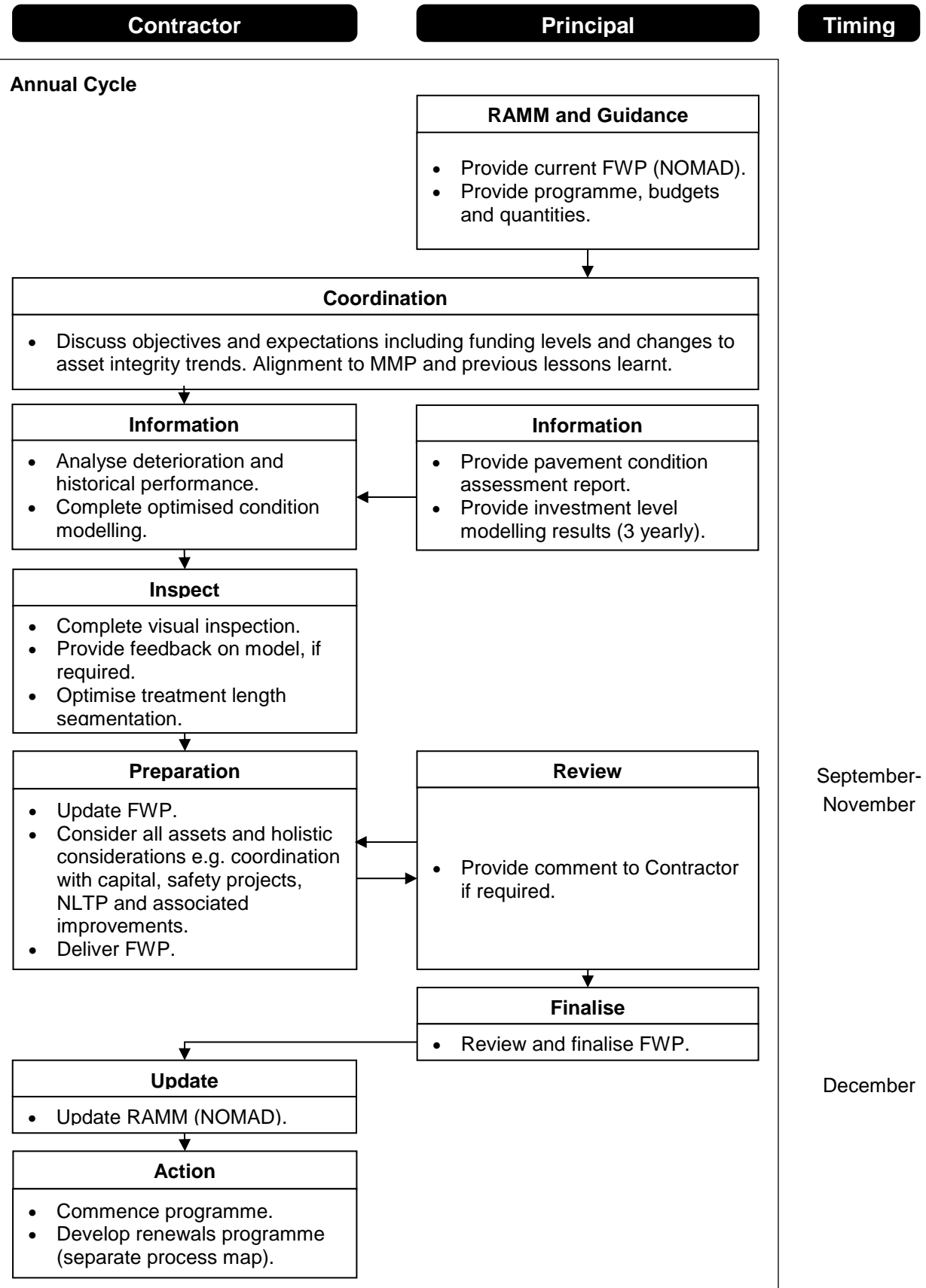
| Management of Rehabilitation Quantity | | | Process Map |
|---------------------------------------|------------------------|------------------|--------------|
| Specification Section | 5.0 Network Management | Clause Reference | 2.4.4/ 5.2.5 |



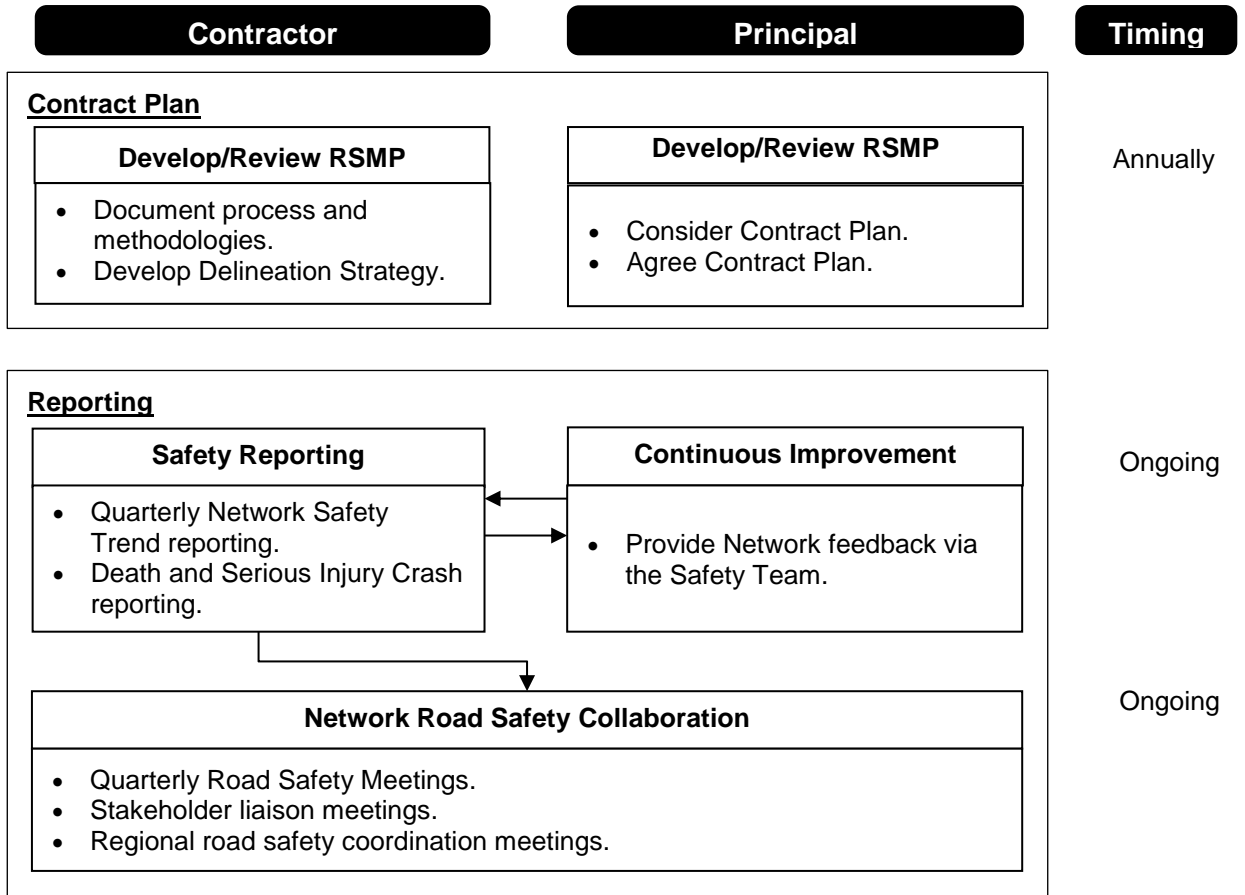
| Management of Rehabilitation Quantity | | | Process Map |
|---------------------------------------|------------------------|------------------|---------------|
| Specification Section | 5.0 Network Management | Clause Reference | 2.4.4 / 5.2.5 |



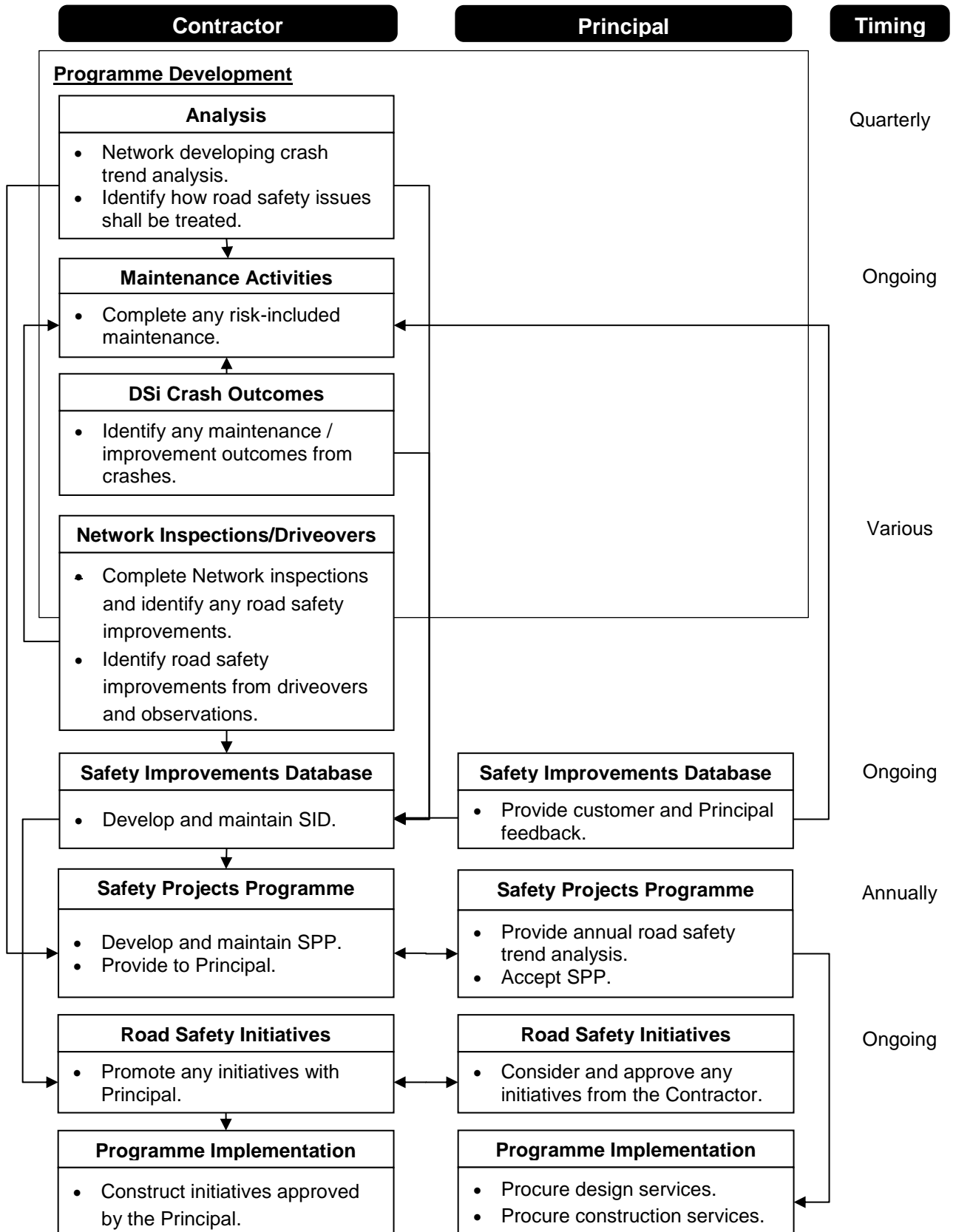
| FWP Development | | | Process Map |
|-----------------------|------------------------|------------------|---------------|
| Specification Section | 5.0 Network Management | Clause Reference | 2.4.4 / 5.2.2 |



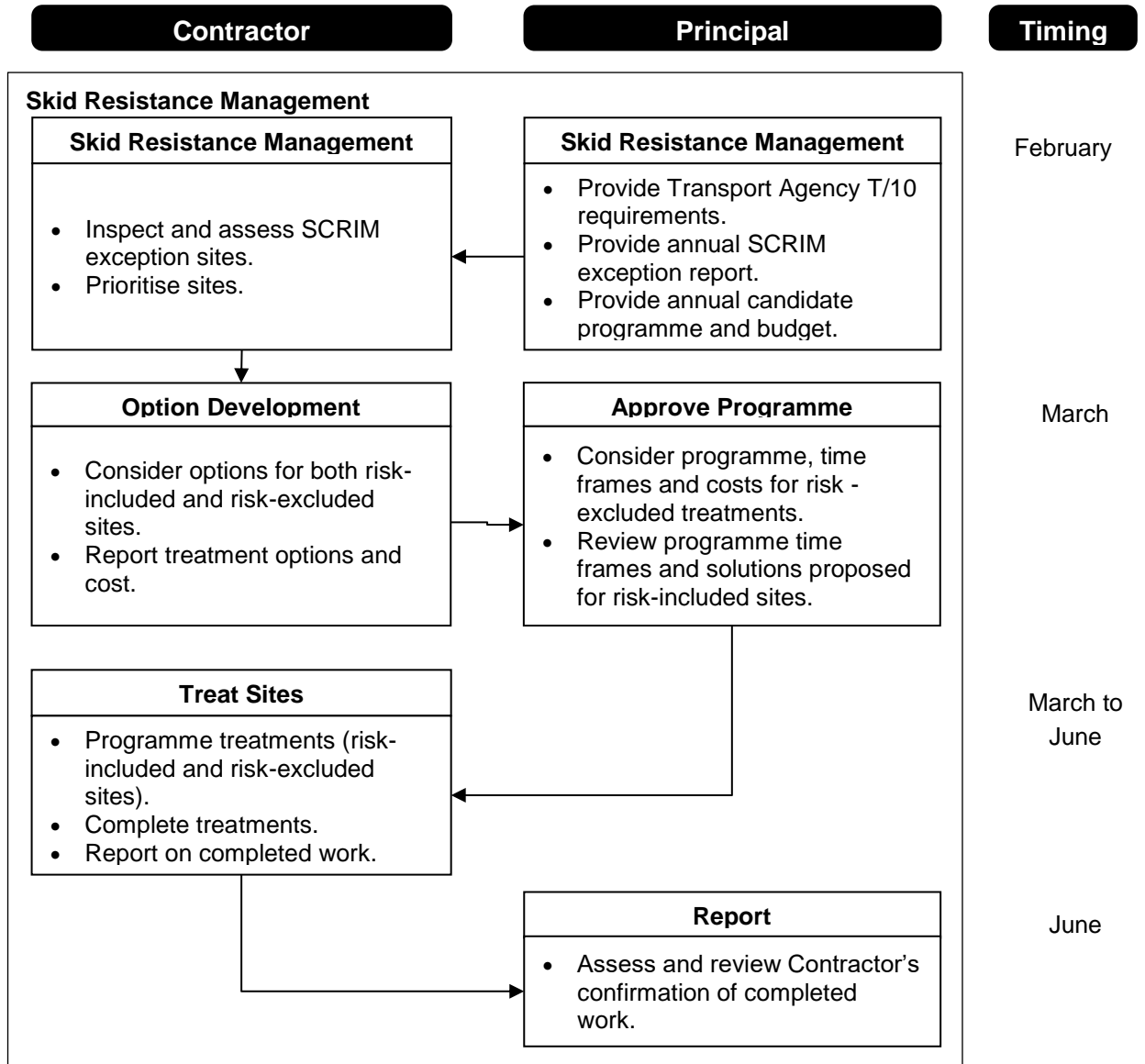
| Road Safety Management | | | Process Map |
|------------------------------|------------------------|-------------------------|-------------|
| Specification Section | 5.0 Network Management | Clause Reference | 5.8 |



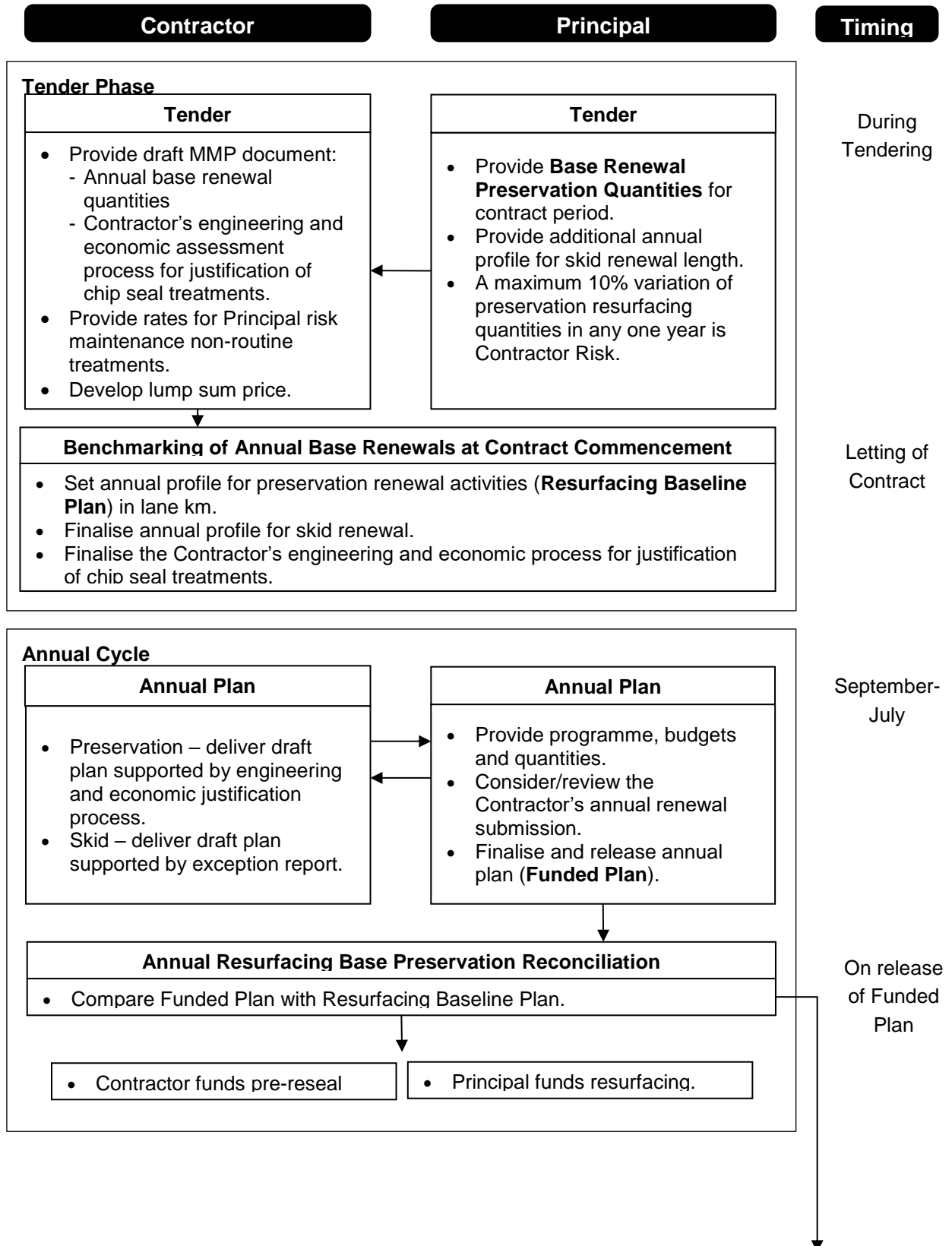
| Road Safety Management | | | Process Map |
|------------------------|------------------------|------------------|-------------|
| Specification Section | 5.0 Network Management | Clause Reference | 5.8 |



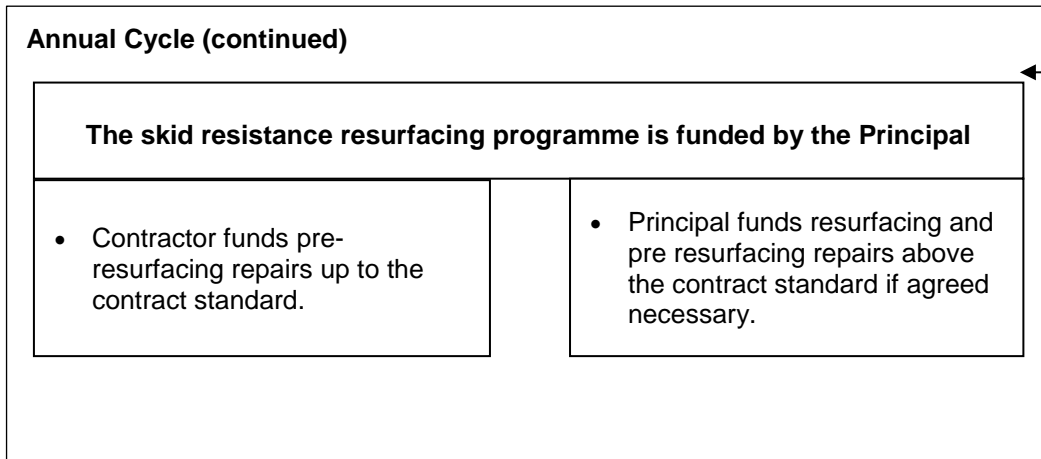
| Road Safety Management | | | Process Map |
|------------------------------|------------------------|-------------------------|-------------|
| Specification Section | 5.0 Network Management | Clause Reference | 5.8 |



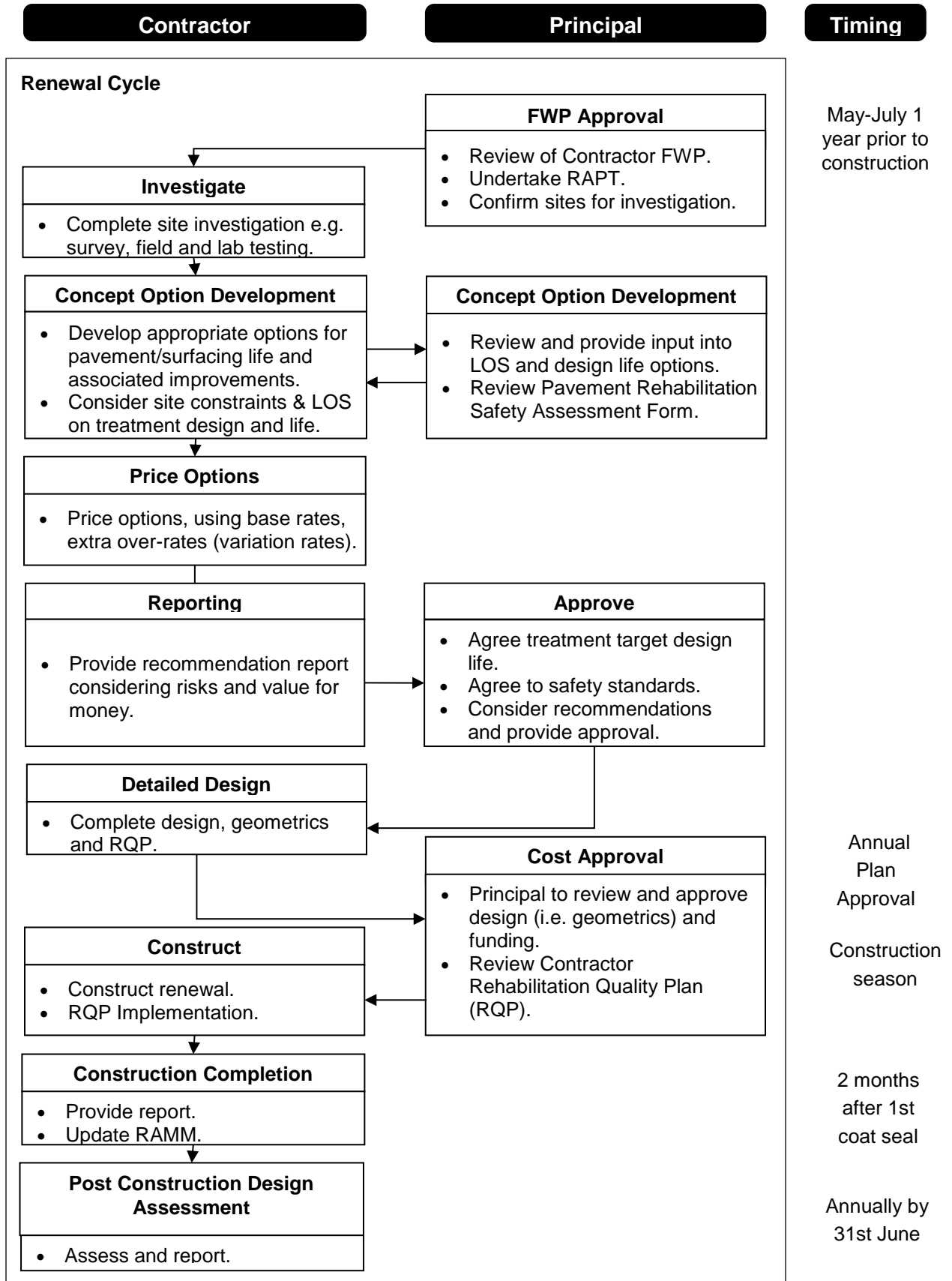
| Management of Resurfacing Quantity | | | Process Map |
|------------------------------------|--------------------|------------------|---------------|
| Specification Section | 6.0 Physical Works | Clause Reference | 2.5.4 / 5.2.5 |



| Management of Resurfacing Quantity | | | Process Map |
|------------------------------------|--------------------|------------------|---------------|
| Specification Section | 6.0 Physical Works | Clause Reference | 2.5.4 / 5.2.5 |



| Annual Renewals Design and Construct | | | Process Map |
|--------------------------------------|--------------------|-------------------------|---------------|
| Specification Section | 6.0 Physical Works | Clause Reference | 5.3.1 / 5.3.2 |



2.5 OPM Monthly Evaluation Example

Part A: Establishing the at-Risk Payment value for the Contract Period

Monthly at-Risk Payment

Payment for Contract Works is done monthly for the Contract Period (e.g. 84 months), minus the establishment and renewal lump sum costs.

| | |
|---|-----------------------------|
| Tendered base lump sum derived from Schedule 1 (over 84 months) | \$40M |
| Establishment cost from Schedule items 1.1 | \$19M |
| Total tendered base lump sum less Establishment | \$40M - \$19M = \$21M |
| Annualised Total Tendered base lump sum: | = \$21M / 7 years = \$3M |
| Monthly tendered base lump sum | (1/12) * \$3M = \$250K |
| Maximum monthly at-risk payment | 10% * \$250K = \$25K |

For further information on payment, see Basis of Payment, Section 1.

The value of the monthly at-Risk Payment is vulnerable to change dependent on the level of non-conformance.

Calculating the number of audit sections

The number of audit sections is dependent on variable elements, being the size of the network and the sample size; and an invariable element being the length per audit section (km) which has been set at 5km.

| | | |
|-----------------------------------|--------------------------------------|--|
| Size of network (Km): | 500 | |
| Number of classes in network (#): | 4 | |
| Audit size (%): | 10% | |
| Measure frequency: | Monthly | |
| Length per audit section (Km): | 5 | |
| Amount audited (Km): | $500\text{Km} * 10\%$ $= 50$ | |
| Audit sections (#): | $50\text{Km} / 5\text{Km}$ $= 10$ | |

Number of Audit sections per Road Class

The Principal has pre-determined the number of sections to be audited per month (refer Maintenance Specification, Section 2). A specified number of audit sections are included in the monthly OPM compliance self-auditing regime. Each audit section may cover only one road class. For this particular example, the Principal has assigned the following number of audits per road class:

| Road Class | Km | Audit Sections (#) |
|--------------|------------|--------------------|
| NatHV(M&E) | 0 | 0 |
| NatHV | 150 | 4 |
| Nat | 100 | 2 |
| Reg | 50 | 1 |
| Art | 200 | 3 |
| PCol | 0 | 0 |
| SCol | 0 | 0 |
| Acc | 0 | 0 |
| AccLV | 0 | 0 |
| Total | 500 | 10 |

Summary

For this audit, there will be four audit sections on NatHV roads, two audits on Nat roads, one audit on Reg and three on Art roads:

- The network should be divided into 5 km lengths, some audit sections may exceed the 5km to ensure the tails of the network are not omitted and conversely some audit section maybe less.
- Audit sections are to be randomly generated for each road class so that the requirements to meet the total number of audit sections per road class are achieved.

- The Contractor and Principal will agree the appropriateness of the audit sections to be audited each month.
- The Contractor is required to commence the monthly audit within 24 hours of the agreed audit section programme.
- In addition to those OPMs that are measured in the field for each audit section the Contractor is also required to audit office-based OPMs monthly. The number of office-based OPMs will vary monthly dependent on what work has been completed and when an annual OPM is measured for compliance. Office-based OPMs are reported separately to the audit section OPMs. All OPMs measured for that month are aggregated to give the overall month's compliance score.

Part B: Monthly Network Compliance Evaluation

Ten audit sections have been selected by the Contractor and agreed with by the Principal. All the sections will be audited against all relevant field-related OPMs. Monthly evaluation is determined by assessing the compliance with the standard in that month for both field and office-based OPMs, the duration of non-conformances, the number of occurrences and the applied weightings for selected OPMs leading to the overall audit score.

Occurrences

The non-compliances for each audit section are summarised. All these OPMs evaluate 10% of the sample size, measured monthly.

| Audit Section # | Road Class | Key reporting | Deformations, Heaves and Shoves | | Unlined water channels | | Barrier and Hand Rail Damage Repairs | | | | |
|-----------------|------------|---------------|---------------------------------|--------|------------------------|--------|--------------------------------------|----------|--------|--------|--|
| | | | OPM 17 | OPM 18 | OPM 45 | OPM 46 | OPM 55 | OPM 56 | OPM 57 | OPM 58 | |
| 1 | NatHV | | 1 | | | | | | | | |
| 2 | NatHV | | | | 1 | | 1 | | | | |
| 3 | NatHV | | 1 | | 1 | | 1 | | | | |
| 4 | NatHV | | | | | | | | | | |
| | | | | | | | | | | | |
| 5 | Nat | | 1 | | | | | | | | |
| 6 | Nat | | | | 1 | | 1 | | | | |
| | | | | | | | | | | | |
| 7 | Reg | | | | | | | | | | |
| | | | | | | | | | | | |
| 8 | Art | | | | 1 | | | | | | |
| 9 | Art | | | | | | | | | | |
| 10 | Art | | | | 1 | | | | | | |
| | | | | | | | | | | | |
| A | N/A | 1 | | | | | | | | | |
| Total | | 1 | 3 | | 5 | | 2 | 1 | | | |

Weighting

Depending on the nature and context of each OPM, they may have different weighting consequences for not achieving the standard. The following table lists the weightings by each of the OPM categories as listed in Maintenance Specification, Section 2.

| OPM Category | Weighting |
|--|-----------|
| Safety | 4 |
| Customer Facing | 2 |
| Asset Condition | 1 |
| OPM Non-conformance identified by Principal or representative and not identified by Contractor | 5 |

Types of non-compliances and their corresponding weightings

| Non-compliance type | Safety OPMs | | | | Customer Facing OPMs | | | Asset Condition OPMs | | | |
|---------------------|-------------|----|----|----|----------------------|----|----|----------------------|----|----|----|
| | 55 | 56 | 57 | 58 | 82 | 83 | 84 | 17 | 18 | 45 | 46 |
| OPMs | | | | | | | | | | | |
| Occurrences Sum | 2 | 1 | | | | | | 3 | | 5 | |
| Weighting | 4 | 4 | 4 | 4 | 2 | 2 | 2 | 1 | 1 | 1 | 1 |

Duration

The duration is the number of consecutive corresponding months where non-compliances have occurred or not been closed out for that OPM.

| OPM | Occurrences per OPM each month: | | | | | | |
|---|---------------------------------|----|----|----|----|----|----|
| | 1 | 17 | 18 | 45 | 46 | 55 | 56 |
| January | 2 | 0 | | 0 | | | |
| February | 0 | 1 | | 1 | | | |
| March | 1 | 3 | | 5 | | 2 | 1 |
| Non-conformance duration at March audit | 1 | 2 | | 2 | | 1 | 1 |

Total

The Monthly Network Compliance score (MNCS) is calculated using the following equation:

$$MNCS = \sum (\text{Occurrences} * \text{Weighting} * \text{Duration})$$

| OPM | Occurrences | Weighting | Duration | MNCS | |
|-----|-------------|-----------|----------|---------|-----------------------|
| | | | | Formula | Value |
| 1 | 1 | 1 | 1 | =1*1*1 | 1 |
| 17 | 3 | 1 | 2 | =3*1*2 | 6 |
| 18 | 0 | 11 | 0 | =0*1*0 | 0 |
| 45 | 5 | 1 | 2 | =5*1*2 | 10 |
| 46 | 0 | 1 | 30 | =0*1*0 | 0 |
| 55 | 1 | 4 | 13 | =0*4*3 | 14 |
| 56 | 1 | 4 | 1 | =1*4*1 | 4 |
| 57 | 0 | 4 | 0 | =0*4*0 | 0 |
| 58 | 0 | 4 | 0 | =0*4*0 | 0 |
| | | | | | = 1 + 6 + 10 + 14 + 4 |
| | | | | | = 35 |

In this example the MNCS is less than 45; therefore no financial penalty is imposed. If the MNCS was between 45 and 65 a variable financial penalty would result depending on the score. If MNCS was over 65 then 100% financial penalty would be imposed.

If the overall monthly score was 57

The following equation determines the proportion of payment that is adjusted, where x = 57, which is the MNCS:

$$\text{Proportion adjustment} = -0.2336x^2 + 21.188x - 380.78$$

| | |
|---------------------------|---|
| Proportion adjustment (%) | = $100 - (-0.2336(57)^2 + 21.188(57) - 380.78)$ |
| | = $100 - (-759.0 + 1207.7 - 380.78)$ |
| | = 32.1 |

| | |
|--|-------------------------|
| Maximum monthly at-risk payment: | \$25K |
| Proportion adjustment: | 32.1% |
| Monthly at-risk payment post-adjustment: | $\$25K * 32.1\%$ |
| | = \$8,025 |
| Payment for month post-adjustment: | = $\$(250,000 - 8,025)$ |
| | \$241,975 |

2.6 Example of an Asset Reconciliation Register and Cost Calculation

| TABLE 2.6: ASSET RECONCILIATION REGISTER AND COST CALCULATION EXAMPLE | | | | | | | | | | | |
|---|------|--|------------|-------------|---------------|---------------|-------------|----------------|------------------|----------------|---------------|
| PROJECT | YEAR | RECONCILIATION ITEMS, DESCRIPTIONS AND UNITS | | | | | | | | | |
| | | 2.3.1 | 2.3.2 | 2.3.3 | 2.3.4 | 2.3.5 | 2.3.6 | 2.3.7 | 2.3.8 | 2.3.9 | 2.3.10 |
| | | STREET LIGHT | GUARD RAIL | PM FULL RTB | PM EL | PM FLUSH MED. | PM NO PASS. | SEALED PAVE. | HORIZ. SUB DRAIN | VEGE TYPE 7 | SIGN <750 MM2 |
| | | EA | M | EA | M | EA | M | M ² | M | M ² | EA |
| Project 1 | 1 | 2 | 45 | | 200 | | | 100 | | | |
| Project 2 | 1 | 1 | | | | | | | | | |
| Project 3 | 2 | 4 | -5 | | 400 | | | | | | |
| TOTAL | | 7 | 40 | | 600 | | | 100 | | | |
| TENDERED RATE | | \$20 | \$5 | | \$0.50 | | | \$5 | | | |
| AMOUNT | | 1,400 | 200 | | 300 | | | 500 | | | |
| GRAND TOTAL for Start of Year 3 | | \$2,400 | | | | | | | | | |

TABLE 2.6: ASSET RECONCILIATION REGISTER AND COST CALCULATION EXAMPLE

| PROJECT | YEAR | RECONCILIATION ITEMS, DESCRIPTIONS AND UNITS | | | | | | | | | |
|------------|------|--|------------|-------------|-------|---------------|-------------|----------------|------------------|----------------|---------------|
| | | 2.3.1 | 2.3.2 | 2.3.3 | 2.3.4 | 2.3.5 | 2.3.6 | 2.3.7 | 2.3.8 | 2.3.9 | 2.3.10 |
| | | STREET LIGHT | GUARD RAIL | PM FULL RTB | PM EL | PM FLUSH MED. | PM NO PASS. | SEALED PAVE. | HORIZ. SUB DRAIN | VEGE TYPE 7 | SIGN <750 MM2 |
| | | EA | M | EA | M | EA | M | M ² | M | M ² | EA |
| Monthly LS | | \$200 | | | | | | | | | |

NOTES:

The YEAR depicts the financial year the project was issued Practical Completion in.

The RATES are transferred from the Schedule of Prices for schedule items 2.3.

The AMOUNT is the total number of assets added to the network multiplied by the applicable tendered rate.

The GRAND TOTAL will be paid to the Contractor on a pro-rata basis over the next twelve months (Monthly LS). After that time, the reconciliation process will be recalculated for Year 4 taking into account new assets that have been added/deleted during Year 3.

3 CONTRACT MANAGEMENT

3.1 Basic Electronic Warning Signs Maintenance Checklist

| TABLE 3.1: ELECTRONIC WARNING SIGNS MAINTENANCE CHECKLIST | | | | | | | | | | |
|---|------------|-------------------------|-----------------|--|----------------------------------|--------------------------|---------------------------|--|-----------------------------|------------------------------------|
| ROAD NAME | DISPL. (M) | DESCRIPTION OF LOCATION | ASSET | NO DAMAGE: FOUNDATION, POLE, SIGN, SOLAR PANEL | ATTACHMENTS SECURE: SIGN & SOLAR | CLEANLINESS SIGN & SOLAR | NO SHADING OF SOLAR PANEL | CALIBRATION/DISPLAY ACTIVATION (REF METHODOLOGY) | DISPLAY WORKS NO DEAD LEADS | CLEAR LINE OF SIGHT GENERAL SAFETY |
| | | | Refer to Notes: | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Notes:

1. Check if sign/solar panel has been clipped by a vehicle or damaged by a missile, and that the foundation socket is secure.
2. Check that all attachments holding sign and solar panel to pole are secure.
3. Check sign and pole are clean with no graffiti, and no excessive build-up of bird droppings on solar panel.
4. Estimate sun's arc (winter/summer). Check there is no excessive shading of solar panel from trees, for example.
5. Sign activation is achieved by:
 - Speed Indication Device (SID): Move a calibrated tuning fork slowly in and out 0.5 - 0.7m in front of radar. The tuning fork is normally calibrated to 45 km/h. Check SID displays the correct speed.
 - Curve Advisory Sign (CAS). Either use two calibrated tuning forks to activate the upper threshold (displays arrow and "SLOW DOWN") and lower threshold (displays arrow only), or drive towards sign *decelerating to a safe speed* whilst activating the upper and lower thresholds.
 - School: May not be activated at time of visit. Phone the school prior to visit and confirm sign display and timer operation are satisfactory.
 - 40km/h School: As for School signs.
 - Cyclist: Roll or ride a bicycle over the induction loops. Or open the Rainbird and take the cable marked 'dry contact output' which should be connected to the cable coming from the sign. Remove this connection and touch the two ends of the cable to the sign together. This should short the connection and activate the sign.
 - Hidden Queue: Turn 3-way switch in control box to "Simulate" for about 10 seconds.
6. With the display activated, check and record the position of any dead LEDs.
7. Ensure no obstruction is blocking approaching road users from seeing the signs. Check general safety.

3.2 Local Authority Maintenance Activities and Locations

| TABLE 3.2: LOCAL AUTHORITY MAINTENANCE ACTIVITIES AND LOCATIONS | | | |
|---|----------|------------------|-------------|
| LOCATION | | | DESCRIPTION |
| LOCAL AUTHORITY | ACTIVITY | GENERAL LOCATION | |
| <<to complete>> | | | |
| <<consider stock control responsibilities, lighting, signals, tunnels>> | | | |
| | | | |

3.3 Sections of the Network under the Current or Future Control of Separate Contractors

| TABLE 3.3: SECTIONS OF THE NETWORK UNDER THE CURRENT OR FUTURE CONTROL OF SEPARATE CONTRACTORS | | | |
|--|------------|---|------------------------------------|
| TYPE OF WORK | START DATE | COMPLETION DATE AND/OR PERIOD OF DEFECTS NOTIFICATION | CONTACT PERSON AND CONTACT NUMBERS |
| <<to complete>> | | | |
| | | | |
| | | | |
| | | | |
| | | | |

<<include any upcoming projects that are likely to involve Contractor coordination. This is to provide a heads up on these projects for the Contractor to price into the lump sum.>>

3.4 Standard Specifications

The following Standard Specifications apply to this contract.

| TABLE 3.4: STANDARD SPECIFICATIONS | | |
|------------------------------------|-------|---|
| SPECIFICATION REFERENCE | ISSUE | SPECIFICATION DESCRIPTION |
| Transport Agency B/2 | 2005 | Construction of Unbound Granular Pavement Layers |
| Transport Agency B/5 | 2008 | In-situ Stabilisation of Modified Pavement Layers |
| Transport Agency F/ 1 | 1997 | Earthworks Construction |
| Transport Agency F/ 5 | 2000 | Corrugated Plastic Pipe Subsoil Drain Construction |
| Transport Agency F/ 6 | 2003 | Geotextile Wrapped Aggregate Subsoil Drain Construction |
| Transport Agency M/ 4 | 2006 | Basecourse Aggregate |
| Transport Agency M/ 6 | 2011 | Sealing Chip |
| Transport Agency M/10 | 2014 | Asphalt Concrete |
| Transport Agency M/14 | 2011 | Edge Marker Posts |
| Transport Agency M/17P | 1989 | W-Section Bridge Guardrail |
| Transport Agency M/19 | 1994 | Specification for Tubular Steel Lighting Columns |
| Transport Agency M/23 | 2014 | Road Safety Barrier Systems |
| Transport Agency M/24 | 2006 | Specification for Audio Tactile Profiled Roadmarkings |
| Transport Agency M/30 | 2014 | Specification and Guidelines for Road Lighting Design |
| Transport Agency P/ 9 | 1975 | Construction of Asphaltic Concrete Paving |

TABLE 3.4: STANDARD SPECIFICATIONS

| SPECIFICATION REFERENCE | ISSUE | SPECIFICATION DESCRIPTION |
|--------------------------------|--------------|---|
| Transport Agency P/11 | 2007 | Open-Graded Porous Asphalt |
| Transport Agency P/17 | 2012 | Performance Based Specification for Bituminous Reseals |
| Transport Agency P/22 | 2006 | Reflectorised Pavement Marking |
| Transport Agency P/24 | 2008 | Performance Based Specification for Traffic Signs |
| Transport Agency P/30 | 2009 | High Performance Road Marking |
| Transport Agency P/39 | 2013 | Highway Landscape Treatments |
| Transport Agency P/40 | 2014 | Noise Mitigation |
| Transport Agency P/44 | 2013 | Generic Urban Design |
| Transport Agency P/45 | Draft | Accidental Archaeological Discovery |
| Transport Agency P/46 | 2016 | State Highway Stormwater Specification |
| Transport Agency S/ 6 | 2017 | Bridges and Other Significant Highways Structures Inspection Policy |
| Transport Agency T/ 3 | 1981 | Measurement of Texture by the Sand Circle Method |
| Transport Agency T/10 | 2013 | Skid Resistance Investigation and Treatment Selection |
| Transport Agency T/15 | 2014 | Specification for Repeated Load Triaxial (RLT) Testing Pavement |
| Transport Agency Z/ 5 | 2017 | Health and Safety Compliance Notice |
| Transport Agency Z/1 | 2017 | Quality Management Plan |

TABLE 3.4: STANDARD SPECIFICATIONS

| SPECIFICATION REFERENCE | ISSUE | SPECIFICATION DESCRIPTION |
|--------------------------------|--------------|--|
| Transport Agency Z/15 | 2016 | Asset Owner's Manual |
| Transport Agency Z/19 | 2016 | Environmental and Social Responsibility Standard |
| Transport Agency Z/44 | 2013 | Risk Management |

3.5 Other Publications

The following publications apply to this contract.

| TABLE 3.5: OTHER PUBLICATIONS | |
|-------------------------------|---|
| SPECIFICATION REFERENCE | SPECIFICATION DESCRIPTION |
| | Austrroads Guide to Pavement Technology: Parts 2 & 5 |
| | Austrroads Guide to Road Design Part 3: Geometric Design |
| | Chipsealing in New Zealand |
| | Guide on Surfacing in Urban Environments |
| | Guideline Making roads motorcycle friendly http://msac.org.nz/assets/Uploads/pdf/Making-Roads-Motorcycle-Friendly-NZ-September-2014-V2.pdf |
| | Guidelines for CMA |
| | Guidelines for Performance Based Rehabilitation Contracts (Draft) |
| | Highway and Network Operations Environmental and Social Responsibility Standard |
| | Maintenance Intervention Strategy Guideline |
| | National Code of Practice for Utility Operator's Access to Transport Corridors |
| | New Zealand Cycle Trail Design Guide |
| | NZ Transport Agency Brand Manual |
| | NZTA Cycling Network Guidance |
| | NZTA Guide to Pavement Evaluation and Treatment Design |
| | NZTA Guide to Pavement Structural Design |
| | NZTA National Cycle Network |
| | NZTA Specification for the Construction and Maintenance of Cycling Facilities |
| | Road Safety Manufacturers Association (RSMA) Standards for the Manufacture and Maintenance of Traffic Signs, Posts and Fittings |
| | Safe Network Management Activity Manual |
| | Safer Journeys for People Who Cycle – Cycling Safety Panel Final Report |

TABLE 3.5: OTHER PUBLICATIONS

| SPECIFICATION REFERENCE | SPECIFICATION DESCRIPTION |
|--------------------------------|---|
| | Social, Environmental and Responsibility Standard |
| | The New Zealand Supplements to the Austroads Guides |
| | The Transport Agency's Bridge Manual |
| | The Transport Agency's Structures Design Guide |
| CoPTTM | Code of Practice for Temporary Traffic Management: Part 8 of the Traffic Control Devices (TCD) Manual |
| EEM1 | Economic Evaluation Manual |
| MOTSAM | Manual of Traffic Signs and Markings |
| PPFM | Planning, Programming and Funding Manual |
| SM012 | State Highway Control Manual |
| SM018 | The Annual Plan Instruction Manual |
| SM020 | State Highway Asset Management Manual |
| SM030 | State Highway Professional Services Contract Proforma Manual |
| SM032 | State Highway Maintenance Contract Proforma Manual |
| SM050 | State Highway Database Operations Manual |
| SM051 | Location Referencing Management System Manual |
| SP/M/001 | Planning Policy Manual |
| SP/M/002 | State Highway Safe Network Management Activity Manual |
| SP/M/016 | Bridge Inspection and Maintenance Manual |
| | Winter Service Requirements 2013 |
| SP/M/023 | State Highway Construction and Maintenance Noise Vibration Guide 2019 |

3.6 Benchmark and Calibration Sections

| TABLE 3.6: ROAD BENCHMARK AND CALIBRATION SECTION LOCATIONS | | | | | |
|---|--------------------|------------------|------------|----------------|-----|
| ROAD NAME | START LOCATION (M) | END LOCATION (M) | LENGTH (M) | CLASSIFICATION | TLA |
| <<to complete>> | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

3.7 Stockpile Sites and Disposal Areas

| TABLE 3.7.1: STOCKPILE SITES | | | |
|------------------------------|------------|------|------|
| LOCATION | | | NAME |
| ROAD NAME | DISPL. (M) | SIDE | |
| <<to complete>> | | | |
| | | | |

| TABLE 3.7.2: DISPOSAL SITES | | | | |
|-----------------------------|------------|------|------|-------|
| LOCATION | | | NAME | NOTES |
| ROAD NAME | DISPL. (M) | SIDE | | |
| <<to complete>> | | | | |
| | | | | |

3.8 Land Entry Agreements

| TABLE 3.8: LAND ENTRY AGREEMENTS | | | |
|----------------------------------|------------|------|--|
| LOCATION | | | OWNER'S NAME, CONTACT NUMBER AND AGREEMENT REFERENCE |
| ROAD NAME | DISPL. (M) | SIDE | |
| <<to complete>> | | | |
| | | | |
| | | | |
| | | | |

4 CONTRACT PLAN

4.1 Minimum Requirements for PPE

Work completed to investigate, construct and maintain the Network carries inherent risks. All practical steps should be taken to ensure that the Principal, Contractor (including sub-contractors and suppliers) and all visitors are protected from hazards (by the use of controls that eliminate, isolate or minimise their exposure). Regardless, Personal Protection Equipment (PPE) remains a necessary mitigation measure in most work types, and is designed to complement other controls.

The following table sets out the main situations, by exposure type, where the Principal requires PPE to be provided by employers and used by employees, suppliers and visitors.

If the Contractor has a higher standard of PPE, then that requirement will apply to all personnel on or visiting a Site.

TABLE 4.1.1: MINIMUM REQUIREMENTS FOR PPE

| EXPOSURE TYPE | ACTIVITY / PLACE OF WORK | SAFETY EYEWEAR | SAFETY FOOTWEAR | HIGH VISIBILITY CLOTHING | LONG SLEEVES AND LONG PANTS | SAFETY HELMET | SUNHAT | GLOVES | HEARING PROTECTION | COMMENTS |
|---------------|---|----------------|-----------------|--------------------------|-----------------------------|---------------|--------|--|--|--|
| 1 | On a construction / repair site on a legal road | √ | √ | √ | √ | √ | - | Carried and worn when manual handling. | Available and used when working in close proximity to noisy equipment and in all underground environments. | Includes significant repair work that involves plant use e.g. re-sealing, rehabilitation, and major drainage activities. |
| 2 | Simple maintenance activities on a legal road | Carried | √ | √ | √ | R/A | √ | Carried and worn when handling cutting / grinding power tools and hazardous materials. | Available and used when working in close proximity to noisy equipment. | Activities such as mowing, marker post cleaning, litter collection, etc. |

TABLE 4.1.1: MINIMUM REQUIREMENTS FOR PPE

| EXPOSURE TYPE | ACTIVITY / PLACE OF WORK | SAFETY EYEWEAR | SAFETY FOOTWEAR | HIGH VISIBILITY CLOTHING | LONG SLEEVES AND LONG PANTS | SAFETY HELMET | SUNHAT | GLOVES | HEARING PROTECTION | COMMENTS |
|---------------|---|----------------|-----------------|--------------------------|-----------------------------|---------------|--------|---------|--------------------|----------|
| 3 | In a vehicle or plant equipment on a construction / repair site on a legal road | Carried | √ | √ | √ | Carried | - | Carried | Carried | |

| | | | | | | | | | | |
|---|--|-----|-----|-----|-----|-----|-----|-----|-----|---|
| 4 | Working outside a vehicle on the Network. | - | √ | √ | √ | R/A | √ | R/A | R/A | <p>This is for inspection work only, not on a Construction or maintenance site. Includes private property and Crown land where construction of infrastructure is planned.</p> <p>For example, during design of a new Greenfield site, if mobile plant (e.g. excavator) is present or if personnel are within 20m of fixed plant (e.g. drilling rig), then treat as a construction site (exposure type 1).</p> |
| 5 | Visitors to a construction site / community open days / Sod Turnings, Ribbon Cuttings, Site Blessings. | R/A | R/A | R/A | R/A | R/A | R/A | R/A | R/A | <p>Risks to be assessed depending on number of visitors and where they will be on site. In general, small groups to be treated as exposure type 1, 2 or 3</p> |

TABLE 4.1.1: MINIMUM REQUIREMENTS FOR PPE

| EXPOSURE TYPE | ACTIVITY / PLACE OF WORK | SAFETY EYEWEAR | SAFETY FOOTWEAR | HIGH VISIBILITY CLOTHING | LONG SLEEVES AND LONG PANTS | SAFETY HELMET | SUNHAT | GLOVES | HEARING PROTECTION | COMMENTS |
|---------------|--------------------------|----------------|-----------------|--------------------------|-----------------------------|---------------|--------|--------|--------------------|--|
| | | | | | | | | | | <p>but large groups (for example 50 visitors on a bus), could be treated based on a risk assessment. For example, it is not likely to be practical to require large numbers of people to wear PPE so all risks are mitigated by only allowing visitors access to areas where there are no hazards.</p> |

TABLE 4.1.1: MINIMUM REQUIREMENTS FOR PPE

| EXPOSURE TYPE | ACTIVITY / PLACE OF WORK | SAFETY EYEWEAR | SAFETY FOOTWEAR | HIGH VISIBILITY CLOTHING | LONG SLEEVES AND LONG PANTS | SAFETY HELMET | SUNHAT | GLOVES | HEARING PROTECTION | COMMENTS |
|---------------|---|----------------|-----------------|--------------------------|-----------------------------|---------------|--------|--------|--------------------|---|
| 6 | In a vehicle on the Network. In an office environment. | - | - | - | - | - | - | - | - | This includes being outside vehicle for routine stops whilst travelling. Any inspection / physical work undertaken is covered by exposure types 3 & 4. Includes in the site office, public meeting venues, private (landowners) residence etc. |

Key:

- √ PPE Requirement.
- No PPE requirement.

Carried PPE required to be readily available at all times and used where appropriate.

R/A Risk Assessment to be completed.

Notes:

1. These minimum requirements apply to the Principal, Contractor, Sub-contractors, suppliers and visitors when they are on official work-related duties.
2. Any departure from these minimum requirements will need a documented, task specific, risk assessment justifying the exemption and approved by a nominated individual within that employer's organisation.
3. Other types of PPE may be required in certain circumstances in addition, such as waterproofs, restraint harnesses, safety gumboots, sun shade cover for Safety helmet, dust masks, respirators etc.
4. These minimum requirements may be exceeded by the requirements of a particular company, place of work or activity.

TABLE 4.1.2: DEFINITION AND RISKS OF PARTICULAR PPE REQUIREMENTS

| Definitions and Risks | Safety Eyewear | Safety Footwear | High Visibility Clothing | Long Sleeves and Long Pants | Safety Helmet | Sunhat | Gloves | Hearing Protection |
|---|---|--|--|---|--|--|---|--|
| Definition of particular PPE requirement. | Impact resistance eyewear, tinted if required. Not required when operating plant with closed operator enclosure. Full face shields to be considered for certain activities. | Ankle length lace-up with steel toe, sole and heel, to comply with appropriate standard. Plant operators may use slip on boots to allow ankle flexibility. | Complying with CoPTTM. Consider-ation should be given to use of 3 part pull apart vests to reduce snagging hazard. | Suitable for operation, cognisance taken of any extreme hot / cold environments. Flameproof overalls to be worn as appropriate. | Complying with appropriate standard, with provision for sun protection as necessary. | Any suitable hat that provides sun protection. Outside in summer on sunny days. Not when driving vehicles, trucks and plant with covered cabs. | Suitable for specific operation. | Earplugs or ear muffs in accordance with industry standards. |
| Risks that PPE will partially or wholly mitigate. | Physical injury to eye; dust; dazzle causing internal eye injury or failure to see hazards. | Physical Injury through slips, trips, falls; falling materials. | Injury from moving Plant / vehicles. | Some physical injuries, cuts and scrapes. Minimisation of health risks from excessive sun exposure. | Injury from falling objects /moving plant /protruding hazards. | Minimisation of health risks from excessive sun exposure. | Physical injury from sharp or heavy objects. Loss of grip causing fall. | Long term hearing loss. |

4.2 Principal's Asset Registers Overview

TABLE 4.2.1: TABLES TO BE MAINTAINED IN PRINCIPAL'S ASSET REGISTER BY THE CONTRACTOR

| RAMM TABLE NAME | OVERVIEW OF TABLE CONTENT |
|-------------------------|--|
| Carriageway | Dimensional information on the carriageway asset (excluding surfacing and pavement layers). Only some elements of the carriageway table are permitted to be changed by the Contractor – refer to SM050 |
| Carriageway Surfacing | Information on current and historic surfacing records (including those that have been removed as a result of milling/pavement renewals) |
| Drainage | Information on all drainage-related assets (excluding lined and unlined water channels) |
| Features | Inventory information on features such as rest areas, weigh pits, etc. |
| Footpaths | Information on footpaths and shared pathways (including cycleways) and bridlepaths. |
| Forward Works Programme | This is a module in RAMM called NOMAD and contains the pavement and surfacing future works |
| ITS | Inventory information on ITS signage such as VMS boards, etc. To be maintained by the Contractor when defined in the contract scope |
| Maintenance Costs | Contains information on quantities of routine maintenance carried out on the network. Ideally this table is populated from data in the CMMS |
| Markings | Information on all pavement markings including ATP, RRPMS and long-life markings |
| Other Structures | Information on all other structure assets (including weigh stations, noise walls, tunnels, crash cushions, high mast arms and non-retaining walls). Excludes bridges, which are included in a separate database maintained by others |
| Pavement Layer | Information on current and historic pavement layers (including those that have been removed as a result of milling/pavement renewals, or reconstructed as a result of rehabilitation) |
| Pavement Test Pits | Information on pavement layers through test pit activities. |
| Railings | Information on guardrail installations including wire rope, w-section, concrete barriers and sight rails |

TABLE 4.2.1: TABLES TO BE MAINTAINED IN PRINCIPAL'S ASSET REGISTER BY THE CONTRACTOR

| RAMM TABLE NAME | OVERVIEW OF TABLE CONTENT |
|-----------------------|---|
| Retaining Walls | Information on all retaining wall assets (excluding retaining walls associated with bridge structures) |
| Signs | Information on all road related signage |
| Streetlights | Information on streetlights such as pole types, bracket types and luminaries. To be maintained by the Contractor when defined in the contract scope |
| Surface Water Channel | Information on lined and unlined water channels (excluding flumes) |
| Traffic Signals | Information on all traffic signal components |

The following table outlines the tables in RAMM that are NOT maintained by the Contractor.

TABLE 4.2.2: TABLES TO BE MAINTAINED IN PRINCIPAL'S ASSET REGISTER BY OTHERS

| RAMM TABLE NAME | SPECIFIC NOTES |
|------------------------------|--|
| All condition-related tables | Condition-related tables such as Condition Rating, Skid Resistance, Rutting, Roughness etc. can be accessed and used by the Contractor but are maintained by others. |
| Carriageway | Longitudinal dimensional data is maintained by the Principal – refer to SM050. |
| Crashes | Maintained by the Principal. |
| Footpaths | Only populated when owned by the Principal and maintained by others. |
| ITS | Only populated when owned by the Principal and maintained by others. |
| Road Names | Maintained by the Principal. |
| Streetlights | Only populated when owned by the Principal and maintained by others. |
| Traffic and Loading | This table contains traffic volume and traffic loading information and is maintained by the Principal. This data is available for use by the Contractor. |
| User-defined tables | The need to maintain user-defined tables will be defined in the contract scope. |

<<insert Contract Name>>
Network Outcomes Contract
Contract No: <<insert no>>

4.3 Other Registers to be maintained by the Contractor

| TABLE 4.3: OTHER REGISTERS TO BE MAINTAINED BY THE CONTRACTOR | |
|---|--|
| REGISTER | OVERVIEW OF CONTENT |
| Approved Disposal Sites | Refer Maintenance Specification, Section 3.16 |
| Corridor Access Requests | Refer Maintenance Specification, Section 5.5.3 |
| Cost Recovery Register | Maintained on behalf of the Principal. Refer Maintenance Specification, Section 3.13 |
| CS-VUE | Environmental Consent Condition Monitoring system. Refer Maintenance Specification, Section 5.6.1 |
| Deed of Grants | Refer Maintenance Specification, Section 5.5.3 |
| Geological Hazard Register | Refer Maintenance Specification, Section 5.9.1 |
| Slip and Rockfall Register | Refer Maintenance Specification, Section 6.8.1.1 |
| Ice Gritting and Frost Prone Sites | Refer Maintenance Specification, Section 6.6.1.1 |
| KiwiRAP | Refer Maintenance Specification, Section 5.8.7 |
| Land Entry Consents | Refer Maintenance Specification, Section 3.17 |
| Licence to Occupy | Refer Maintenance Specification, Section 5.5.3 |
| Limited Access Roads | Refer Maintenance Specification, Section 5.4.7 |
| No Spray Zones | Refer Maintenance Specification, Section 4.4 |
| No Stopping Bylaws | Refer Maintenance Specification, Section 3.9 and 5.1.1 |
| Parking Restrictions | Refer Maintenance Specification, Section 3.9 and 5.1.1 |
| Pavement Marking Schedules | If not contained in RAMM, a separate road marking schedule may be maintained. Refer Maintenance Specification, Section 6.7.1.7 |
| RAMM CAR Manager | Refer Maintenance Specification, Section 5.5.3 |
| Safety Improvements Register | Refer Maintenance Specification, Section 5.8.3 |
| Side Drains | If not contained in RAMM, a separate side drain schedule may be maintained. |
| Speed Limits | Refer Maintenance Specification, Section 3.9 and 5.1.1 |
| Temporary Speed Restrictions | Refer Maintenance Specification, Section 5.4.6 |
| Vegetation Control Schedules | Refer Maintenance Specification, Section 6.6.1.2 |

TABLE 4.3: OTHER REGISTERS TO BE MAINTAINED BY THE CONTRACTOR

| REGISTER | OVERVIEW OF CONTENT |
|--|--|
| Vulnerable Flooding Area Register | Refer Maintenance Specification, Section 6.4.1 |
| Works being carried out by other Parties | Refer Maintenance Specification, Section 3.1.1 |
| <<Other tables to be specified>> | |

4.4 Minimum Scope Content for Plans

4.4.1 Quality Management Plan

The Contractor shall, at minimum, cover the following components within their QMP:

- Include provision for document issue and authorisation, including review and acceptance of the QMP by the Principal.
- Describe the Contractor's over-arching quality policy, objectives and systems, and how these align to the Principal's quality objectives for the contract; - Transport Agency Z/1.
- Quality management objectives: Define the quality management objectives the Contractor will apply and measure to realise quality outcomes from the products and services delivered under the Contract to help achieve KRA outcomes.
- Roles and Responsibilities: Outline the names, roles, specific quality management responsibilities and authorities of personnel involved in the contract.
- General Approach to Managing Quality: Outline the Contractor's general approach to management of quality under this contract including outlining the supporting systems for implementing the contract (such as Contractor's QMS, HS&E systems, business and financial systems, Standard Operating Procedures, and NZTA systems RAMM, CRMS etc.).
- Include a schedule of meeting, reporting and deliverable requirements, i.e. both internal and with and/or to the Principal and other key stakeholders.
- Performance Management Framework: Set-out the approach for reporting the achievement or otherwise of the performance framework KRAs, KPIs and OPMs.
- Processes: Detail the systems, processes, procedures, plans, tools, records and methods etc. to be used by the Contractor, their sub-contractors, consultants, designers (as appropriate) and suppliers to deliver the products and services required from the Contract. Where these are detailed in other Contract Plans, the Contractor shall provide sufficient reference and outline of the key quality management assurance and control activities and/or associated hold points and gateways including all necessary quality records and evidence. Typical detail shall include:
 - Checking and verification: Detail the approach for checking and verification of all deliverables
 - Supplier/Sub-contractor Management: Include a list of Sub-contractors, consultants, designers and suppliers including the activities undertaken for ensuring the quality of their products and services and compliance to the contract requirements
 - Information and Records Management: Identify the quality records to be kept as part of the Contract and how the quality management of information and records will be achieved
 - Non-conformance Management: Detail the Contractor's internal non-conformance and corrective-action system to be applied. Including details on the Contractor's approach to manage and implement, corrective actions, continuous improvement and lessons learnt in response to opportunities for improvement, non-compliance and/or non-conformance when and whenever this occurs. Include how the Contractor will identify, monitor and report this to the Principal

- Internal Auditing: Detail the Contractor's auditing and review activities such as internal review, external reviews, management and contract reviews, physical work audits, and management system audits. Include audit programme detailing the timing and frequency of internal reviews and/or audits
- Programme Management: Details the Contractor's maintenance management system (or equivalent approach) and methodology used to collate all works programmes, monitor progress of works, manage the delivery of programme and manage change when and whenever this occurs
- Physical work quality: Detail how the quality of physical work activities (including both maintenance and asset renewal works) will be assured and controlled in this contract including but not limited to standards applied to achieve compliance, compliance monitoring activities, linkage to data quality management, quality management surveillance activities such as Inspection and Test Plans (ITPs) used, schedule(s) of site inspection and testing activities, monitoring and/or audits (Contractor and/or 3rd party undertaking works), Random Verification Testing (RVT).
- Network Control Activities, Safety Management, Contract Administration activities: Detail how the quality of all activities will be assured and controlled in this contract, including where applicable linkage to KPIs and OPM inputs/outputs
- Data Quality Management: Refer to data quality plan requirements.
- Continual Improvement: Detail how continual improvement will be applied to the Contractor's products and services such as use of process improvements, innovation registers, non-compliance and other learnings throughout the contract period.
- QMP Implementation and Management: Detail the Contractor's approach to QMP implementation and management including provision for training, awareness and competency activities as well as document review and updating activities.
- Renewal Quality Plans: In addition to the QMP, for pavement rehabilitation and resurfacing activities, Renewal Quality Plans are required to be prepared by the Contractor for site-specific situations. Any lessons learnt as a result of the Renewal Quality Plan(s) implementation will be reflected back into the QMP.

4.4.2 Traffic Control Plan (TCP)

The Contractor shall, at minimum, cover the following components within their TCP:

- Include provision for document issue and authorisation, including review and acceptance of the TCP by the Principal.
- Describe the Contractor's over-arching traffic control policy, objectives and systems, and how these align to the Principal's objectives for the contract.
- Roles and Responsibilities: Outline the names, roles, specific traffic control management responsibilities and authorities of personnel involved in the contract. Include contact details for the Contractor, Sub-contractor(s), Principal, emergency services and other stakeholders.
- General Approach to Managing Traffic Control: Outline the Contractor's general approach to management of traffic control under this contract including outlining the supporting systems for implementing the contract.

- Customer Focus: How the Contractor and its Sub-contractors carry out work with minimal impact on customers and how this supports the CSMP.
- PPE: Outline how the Contractor's and Sub-contractor's personnel will be protected at all times.
- Temporary Traffic Control: Define the minimum requirements for temporary traffic control for all activities within the contract. Details shall include the provision of appropriate transitions, to enable safe and efficient traffic flow into, through and out of work sites. Provide a documented process for preparation, review and approval of TMPs.
- Layout diagrams: Present typical layout diagrams, method statements etc. for the implementation of traffic control while undertaking each aspect of the Services (including proposed methodology to determine when site-specific layout diagrams and method statements are required if the Services require traffic control measures not covered by standard codes of practice).
- TMC Role: Define the processes and procedures to be used to fulfil the Traffic Management Coordinator (TMC) role.
- TMP Approvals; Detail the:
 - document-tracking and control system to ensure that only the latest operative copy of the TMP is in circulation,
 - the process for approval of any temporary speed limits and ongoing variations,
 - A documented systematic approach to coordinating all road-work activities that affect road users, and including coordination with adjacent Network contracts, and
 - Input from the Police, emergency services and other stakeholders to encourage compliance from these parties.
- Auditing: Describe the Contractor's methodology for undertaking Traffic Management Plan audits of the Contractor's and third party works. This shall include the audit frequency, actions to be taken and how lessons learnt are incorporated back into the process.
- Benchmarking: Define the procedures for annual benchmarking of the potential effects of the Contractor's activities on customer travel time and reliability.
- Continual Improvement: Detail how continual improvement will be applied to the Contractor's services such as use of auditing, process improvements, innovation registers, non-compliance and other learnings throughout the contract period.

4.4.3 Customer and Stakeholder Management Plan

The Contractor shall, at minimum, cover the following components within their CSMP:

- Include provision for document issue and authorisation, including review and acceptance of the CSMP by the Principal.
- Describe the Contractor's over-arching customer and stakeholder management policy, objectives and systems, and how these align to the Principal's objectives for the contract, in particular the customer value proposition.

- Roles and Responsibilities: Outline the names, roles, management responsibilities and authorities of personnel involved in the contract. Provide details on the Customer and Stakeholder Manager.
- General Approach to Managing Customers, Stakeholders and Communications: Outline the Contractor's general approach to management of customers, stakeholders and communications under this contract including outlining the supporting systems for implementing the contract. Provide examples of a range of general contract activities and the proposed communications approach for each (including those for low cost/low risk and minor safety works). Discuss the process for the Customer and Stakeholder Manager to be involved in influencing the Contractor's operations to ensure the customer value proposition is upheld.
- Māori Engagement Sub-Plan: Outline the plan on how Māori shall be engaged. Details shall include:
 - Identification of iwi/hapu within the Network, including their contact person(s) and details,
 - Any statutory acknowledgement areas for those iwi/hapu who have completed treaty settlements,
 - Identification of where the marae or other significant Māori interests are located within the Network,
 - Methods and processes to engage with Maori,
 - Identification of what issues Maori are either not informed of or informed of or discussed with e.g. minor works, minor works in the vicinity of a marae or major works,
 - Reference to any iwi management plans relevant to the Network, and
 - Any other relevant matters.
- Unplanned Events: Outline intended communications methodology for managing stakeholders and communications for unplanned events (include immediate emergency response as well as longer term remediation/repair communications).
- Communication Protocols: Define the stakeholder communication protocols according to the Principal's requirements.
- Public Engagement: Provide linkage to the Principal's Public Engagement Manual and how the Contractor intends to support it.
- Media Management: Define communications protocols according to the Principal's requirements.
- CRM: Explain the integration of the Principal's CRM system (refer Section 5.4.2 of the Maintenance Specification) into the Contractor's processes and procedures.
- Records of Communication: Outline how the Contractor will document contract records and communication management.
- Network Controls: Outline the Network controls management systems and procedures.
- Continual Improvement: Detail how continual improvement will be applied to the Contractor's services such as use of auditing, process improvements, innovation registers, non-compliance and other learnings throughout the Contract Period.

4.4.4 Maintenance Management Plan

The Contractor shall, at minimum, cover the following components within their MMP:

Strategic

- How the Contractor will proactively retain renewal investment levels within the quantities available under the contract, seeking to reduce these where appropriate, and how these quantities together with an appropriate mix of planned, reactive and preventive maintenance will be applied to improve the value for money performance of the existing network.
- How the contractor will manage shared-risk elements of the services.
- How the Contractor will optimise maintenance activities across the different classifications assigned across the network.
- Use of data in decision making and achieving advanced asset management
- Linkage with Quality Management Plan.
- Resource management. Impacts of optimised service level and classification influences on the positioning and allocation of resources.
- Sustainability of Asset Management resource. How competency and capability of Asset Management resources will be maintained to ensure delivery of the MMP.
- Environmental impacts. How the Contractor can demonstrate maintenance and renewals can be optimised to reduce greenhouse gas emissions.
- Critical success factors themes. Focussing on key themes that are critical to achieving the strategic intent of the MMP and the outcomes expected.
- Proposed measures and targets. May be detailed under performance management where there are overlaps.

Development and Maintenance of Forward Works Programmes

Note: Tenderers are expected to provide some linkage between current performance and target outcomes and the processes that will be utilised. This includes Tenderers Drainage and Economic decision-making justification process. Under the heading Drainage Strategies, bullet Forward works programming – Tenderers are expected to provide the methodologies and processes that will be used to integrate the drainage forward works programme with the programme for other asset maintenance and renewals.

- Detailing the process for developing a long term forward view of needs over a 10-year planning period for all assets including:
 - Pavements and surfacing
 - Drainage systems including pavement drainage
 - High value assets (Railings and barriers, minor structures, large signs etc.)
 - Other assets
- The use of performance modelling.
- Optimising against classification.

The following programme management topics overlap with the strategic sections for pavements, surfacing and drainage sections where the focus is more on short-term programming, but the discussion must cover all assets.

- Failure mode analysis
- Programming, risk management and prioritisation
- Periodic treatment justification process
- Methodology used for project level NPV analysis for pavement renewals
- MIS strategy development as per SM020
- Programme delivery and post-review processes

In the strategic sections that follow, discussion on analysis, prioritisation and programming relate to short term programming. The long-term programming needs are covered in the previous section. There is clearly a linkage between these that should be explained in the MMP.

Pavement Strategies

Management of the short terms renewal programme. How the upcoming and three year programme is drawn from the long-term forward works programme, the validation and prioritisation process that will be applied, treatment selection etc., and the feedback loop to the long-term programme.

- Short term Forward Works programming
- Detailed treatment selection methodology
- Identification of preventive maintenance opportunities
- The impact of pavement classification
- Pavement preservation strategy delivery to the right level of service to optimise network performance and maximise the life of existing assets
- Pavement design methodologies
- Treatment investigation (binder/stone analysis etc.).

Surfacing Strategies

Management of the short terms renewal programme. How the upcoming and three year programme is drawn from the long-term forward works programme, the validation and prioritisation process that will be applied, treatment selection etc., and the feedback loop to the long-term programme.

- Surfacing preservation strategy delivery to the right level of service to optimise network performance and maximise the life of existing assets
- Short-term Forward Works programming
- Surfacing treatment selection process
- First coat/second coat sealing strategies

- SCRIM exception report and Skid Assessment Length management including how the preservation programme will be managed to minimise SCRIM exceptions.
- Resurfacing design process
- Material selection (e.g. skid resistance performance)
- Urban treatment including environmental treatment cost minimisation
- Strategies for high traffic demand environments
- Material application, for example intended use of emulsion and PMBs.

Drainage Strategies

Management of the short terms renewal programme. How the upcoming and three year programme is drawn from the long-term forward works programme, the validation and prioritisation process that will be applied, treatment selection etc., and the feedback loop to the long term programme.

- Condition Monitoring
- Analysis and Prioritisation
- Short term Forward Works programming
- Input into maximising life of pavement and surfacing assets.

Maintenance Activity Requirements

- Integration of maintenance activities
- The impact of classification
- Intervention strategies and thresholds
- Monthly and annual programming procedures
- Cyclic maintenance management
- Inspection and defect management
- Treatment selection process and repair methods
- Programming and management of preventive maintenance work
- Maintenance design process
- Material selection criteria
- Equipment sizing considerations (to minimise pavement effects)
- Standard operating procedures for maintenance activities
- Maintenance activity delivery
- Defect liability management
- Implementation of the MIS.

Annual Planning

- Detailing how the outcomes of the MMP processes will be utilised to create the annual plan submission and network statement. Covering how the requirements for both the renewals programme, routine maintenance and operational activities will be determined, and how the business case will be prepared to substantiate the funding request. The methodology must take account of the Roothing Efficiency Group (REG) initiatives.

Maintenance Performance Management

- Utilising data trend analysis
- Monitoring network performance
- Monitoring the effectiveness of the MMP
- Monitoring maintenance effectiveness
- Monitoring the effectiveness of the MIS
- The use of maintenance cost activity in decision making.

Continuous Improvement

- How the Contractor will audit the implementation of Asset Management disciplines within their organisation where the MMP is a component and utilise the outcomes of these audits to continuously improve the MMP.
- Demonstrate alignment with the Treasury ICR Asset Management Maturity components.
- How the Contractor will share and manage best practice of Asset Management disciplines across their organisation to align with the context of nationally developed, locally delivered.
- How will consistency be achieved across multiple NOC contracts held by the Contractor.

Baseline Plans

- The Baseline Pavement Rehabilitation Plan, stating the Contractor's tender planned annual quantities for the contract duration.
- The Baseline Resurfacing Plan, stating the Contractor's tender planned annual quantities for the contract duration clearly itemising chip seal lengths from asphalt concrete lengths.

4.4.5 Environmental and Social Management Plan (ESMP)

4.4.5.1 Vegetation Management Sub-plan

A key component of the ESMP will be the need for a vegetation management section. The purpose of the vegetation management sub-plan is to set out how the Contractor shall manage landscape assets and improved performance outcomes to meet their statutory requirements and the Principal's expectations. The sub-plan is to be consistent with the relevant regulatory authority and the Principal's national guidelines and specification that are applicable.

Typical detail shall include:

1. Statutory and non-statutory obligations, agreements with regulatory authorities and the Principal.
2. Management of landscape assets in line with national guidelines including methodologies for vegetation management (including vegetation maintenance and control activities).
3. Tree management and arboriculture (including hazardous tree identification).
4. Vegetation and amenity areas within urban areas and stopping places.
5. Protection of indigenous vegetation and identified habitat areas such as Type 8 vegetation control areas.
6. Recognition of cultural landscape values and sites of significance to Iwi.
7. Annual sub-plan review and meeting with the regulatory authority and the Principal.
8. Site inspections, performance monitoring and reporting.

Pest plant management shall be addressed by the Contractor in their Pest Management sub-plan. Guidance on vegetation management may be issued during the contract period. The Principal shall make the Contractor aware of new documentation as it comes to hand.

4.4.5.2 Pest Management Sub-plan

Another key component of the ESMP will be the need for a pest management section. The purpose of the pest management sub-plan is to set out how the Contractor shall manage pest plants to meet their statutory requirements and the Principal's strategic expectations. The sub-plan is to be consistent with the relevant Regional Pest Management Plan and/or agreements with the regulatory authority and the Principal's national strategies that are applicable.

Typical detail shall include:

1. Statutory and non-statutory obligations, agreements with regulatory authorities and the Principal.
2. Pest plant species that shall be targeted.
3. Identification of pest plant risk on neighbouring land.
4. Pest plant management goals and objectives (short, medium, long term)
5. Specific sites of pest management concern such as Type 8 vegetation control areas.
6. Pest control methodologies.
7. Annual pest management plan review and meeting with the regulatory authority and the Principal.
8. Site inspections, performance monitoring and reporting.

Guidance on pest management may be issued during the contract period. The Principal shall make the Contractor aware of new documentation as it comes to hand.

4.4.6 Road Safety Management Plan (RSMP)

4.4.6.1 Safety Management Delineation Sub-plan

A key component of the RSMP will be the need for a safety management delineation strategy Section. The Contractor shall develop and implement a Network Delineation Sub-plan that includes provision for renewals and improvements. The Delineation Sub-plan shall:

- Have the specific objective of using delineation to reduce the incidences of crashes; particularly DSICrashes.
- Include signs, markings, pavement markers, edge marker posts and other delineation devices.
- Identify out of context curves.
- Take into account various factors including but not limited to the needs of specific user groups (e.g. pedestrians, cyclists, motorcyclists, heavy vehicles), signage condition, signage rationalisation, renewals.
- Incorporate delineation aspects of the Principal's applicable road safety strategies.
- Be prepared and updated annually by 1 September.
- Include an Implementation Plan as agreed with the Principal, e.g. what will be implemented, where, timing of implementation.

The safety projects programme shall build on the Delineation Sub-plan.

Note that there are a number of tools available to assist in the development of the Delineation Sub-plan and the safety projects programme, these include:

- Hapai
- Delineation Cost Tool,
http://www.ternz.co.nz/Tools%20and%20Products.html#Delineation_Cost_tool
- Nomographs that illustrate the BCR's for each road classification taking into account the AADT and the type of edge line treatment being installed. These are available on request from National Office.

4.5 Sensitive Environmental, Social and Cultural Heritage Vegetation Areas

TABLE 4.5.1: SCHEDULE OF NO SPRAY ZONES

| ROAD NAME | START DISPL. (M) | END DISPL. (M) | SIDE | DESCRIPTION |
|-----------------|------------------|----------------|------|-------------|
| <<to complete>> | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TABLE 4.5.2: SCHEDULE OF PROTECTED TREES

| ROAD NAME | START DISPL. (M) | END DISPL. (M) | SIDE | DESCRIPTION |
|-----------------|------------------|----------------|------|-------------|
| <<to complete>> | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TABLE 4.5.3: SCHEDULE OF SENSITIVE SOCIAL AREAS

| ROAD NAME | START DISPL. (M) | END DISPL. (M) | SIDE | DESCRIPTION |
|-----------------|------------------|----------------|------|-------------|
| <<to complete>> | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

TABLE 4.5.4: SCHEDULE OF CULTURAL HERITAGE AREAS

| ROAD NAME | START DISPL. (M) | END DISPL. (M) | SIDE | DESCRIPTION |
|-----------------|------------------|----------------|------|-------------|
| <<to complete>> | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

4.6 Site Specific Operations and Emergency Management Plans

TABLE 4.6: SCHEDULE OF SITE SPECIFIC OPERATIONS AND EMERGENCY MANAGEMENT PLANS

| ROAD NAME | START DISPL. (M) | END DISPL. (M) | SIDE | DESCRIPTION |
|-----------------|------------------|----------------|------|-------------|
| <<to complete>> | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

4.7 Highway Incident Management Protocol – MOU

5 NETWORK MANAGEMENT

5.1 Pavement Rehabilitation Safety Assessment Form

PAVEMENT REHABILITATION: PRE-DESIGN PROJECT SCOPE REVIEW

| | | | | | |
|---------------------|--|--------------|--|------------|--|
| Region | | Network Area | | | |
| Road Name | | Start Displ. | | End Displ. | |
| Road Classification | | | | | |
| Prepared By | | Organisation | | Date | |

GENERAL

| | | | | | | | | |
|--------------------------|-------|------------------------------|---------|--|-------|--|------------|--|
| Alignment Description | | | | | | | | |
| Typical Lane Width | | Typical Shoulder Width | | | | | | |
| Part of a Cycle Network? | | If Yes, then provide details | | | | | | |
| 5-Year Crash Statistics | Death | | Serious | | Minor | | Non-Injury | |
| | % Wet | | | | | | | |

| | | |
|--|--------------|--|
| | General Type | |
|--|--------------|--|

| | | | |
|------------|--|-------------|--|
| AADT (vpd) | | Speed Limit | |
|------------|--|-------------|--|

| | | | | |
|---|-----------|--|-----|--|
| Injury Crash Rates / 10 ⁸ Veh Km | Mid-Block | | All | |
|---|-----------|--|-----|--|

| | | | | | |
|--------------------------------------|--|------------------------------------|--|----------------------------------|--|
| KiwiRAP Collective Risk ¹ | | KiwiRAP Personal Risk ¹ | | KiwiRAP Star Rating ¹ | |
|--------------------------------------|--|------------------------------------|--|----------------------------------|--|

| | | | | | | | |
|-------------------|--|-------------|--|------------------|--|------------------|--|
| KiwiRAP (KAT) RPS | | Head On RPS | | Run Off Road RPS | | Intersection RPS | |
|-------------------|--|-------------|--|------------------|--|------------------|--|

| | |
|---|--|
| High Risk Rural Road Guide Treatment Philosophy | |
|---|--|

DETAILS

| | DESIGNER'S RECOMMENDATION | PRINCIPAL'S DECISION |
|---|---------------------------|----------------------|
| Shoulder Width | | |
| Is widening required along the length? Yes / No | | |
| Is widening required for other transport modes? Yes / No (If yes, refer Appendix 5.2) | | |
| Is widening required on bends? Yes / No | | |
| Feather Edge | | |

¹ Information can be sourced from the KiwiRAP books or the 5km length ratings from the SafetyNET software.

| | DESIGNER'S RECOMMENDATION | PRINCIPAL'S DECISION |
|--|---------------------------|----------------------|
| Will the finished slope (within the first 2-3m) be less than 4:1? Preferably 5:1 or 6:1. Yes / No Are improvements required? | | |
| Horizontal Alignment | | |
| Are there any substandard / out of context, high risk curves? Yes / No Are improvements required? | | |
| Vertical Alignment | | |
| Are there any substandard vertical curves that create a safety hazard such as restricted sight distances to intersections? Are improvements required? | | |
| Intersections | | |
| Are there any intersections within length? Yes / No Are improvements required such as shoulder widening, channelisation, lighting, RTBs etc.? | | |
| Sight Distance Restrictions | | |
| Are any sight distance improvements required for safety? | | |
| Roadside Hazards | | |

| | DESIGNER'S RECOMMENDATION | PRINCIPAL'S DECISION |
|--|---------------------------|----------------------|
| Are there roadside improvements required? Traversable culvert ends, culvert extensions, tree / pole removals, barrier installations. | | |

| Safety Audits | | | | | | | | | |
|---|--------|----------|---------------------|--------|----------|---------------------|-------------------|----------|---------------------|
| | Scheme | Yes / No | Exemption Completed | Design | Yes / No | Exemption Completed | Post Construction | Yes / No | Exemption Completed |
| Are safety audits warranted? If not, have exemption forms been completed and attached? | | | | | | | | | |

SUMMARY

| Summary of Issues and Improvements | Designer's Recommendation | Principal Decision |
|------------------------------------|---------------------------|--------------------|
| | | |

| | | |
|--------------------------------------|--|--|
| | | |
| Cost and Funding Implications | | |
| | | |
| Actions Required | | |
| | | |

| |
|---|
| |
| Contractor's Safety Representative |

| |
|-------------------------------------|
| |
| Principal's Contract Manager |

| |
|-------------|
| |
| Date |

| |
|-------------|
| |
| Date |

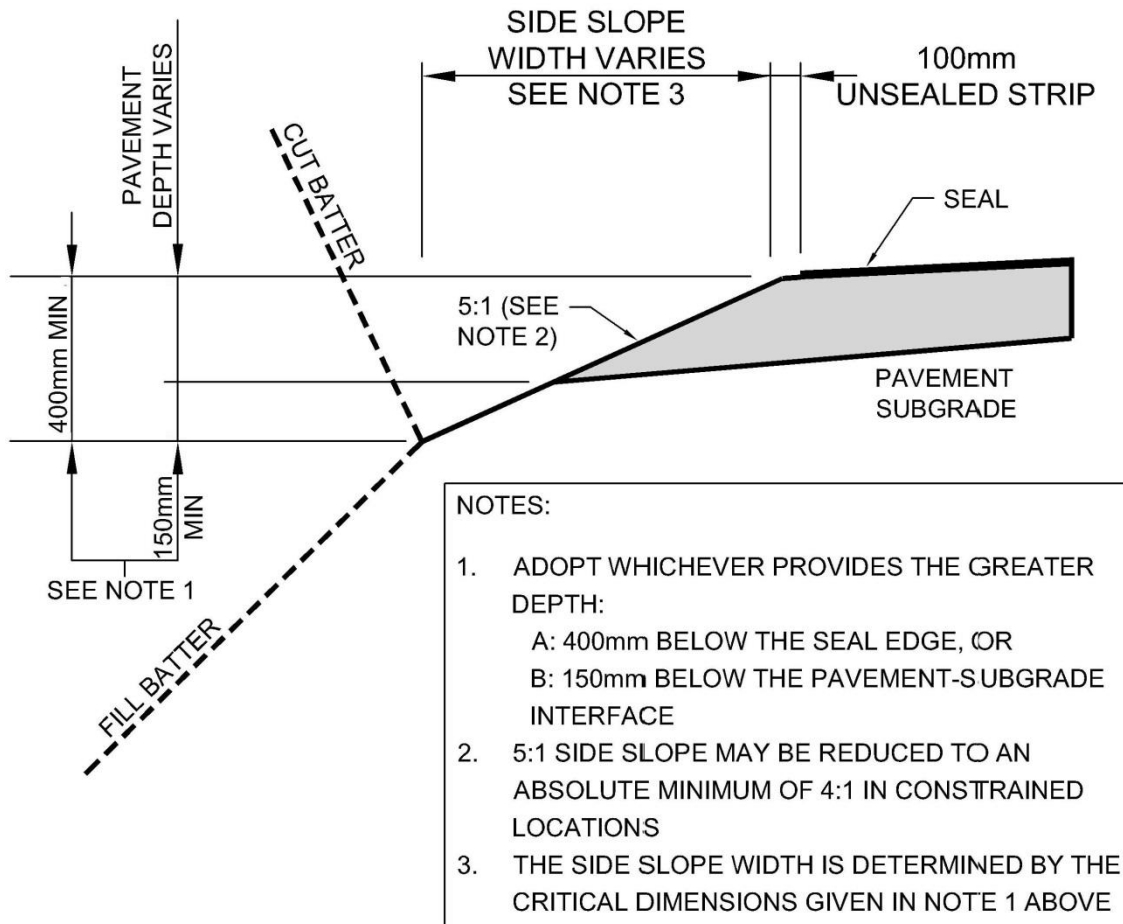
5.2 Pavement Rehabilitation and resurfacing widening considerations

| Target shoulder seal width for State Highway Cycling Network | | | |
|--|---------|---------|-----------|
| | 50 km/h | 70 km/h | 100 km/hr |
| Minimum adjacent traffic lane width | 3.0 m | 3.3 m | 3.5 m |
| 1-1000 AADT | 0.0 m | 0.0 m | 0.0 m |
| 1000-2000 AADT | 0.75 m | 0.75 m | 0.75 m |
| 2000-5000 AADT | 1.0 m | 1.0 m | 1.0 m |
| 5000-8000 AADT | 1.2 m | 1.5 m | 1.5 m |
| 8000-18,000 AADT | 1.5 m | 1.7 m | 2.0 m |
| 18,000+ AADT | 2.0 m | 2.0 m | 2.2 m |

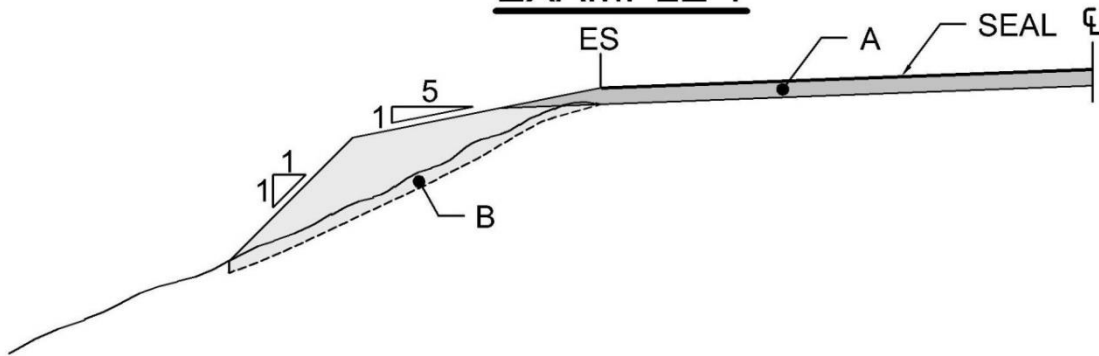
| WIDENING CONSIDERATION FOR ALTERNATIVE TRANSPORT MODES WHERE PRACTICAL | | | |
|--|------------------|----------|-----------|
| ASPECT | POST SPEED LIMIT | | |
| | 50 KM/HR | 70 KM/HR | 100 KM/HR |
| Minimum adjacent traffic lane width | 3.0 m | 3.3 m | 3.5 m |
| Desirable Width | 2.0 m | 2.0 m | 2.2 m |
| Desirable Minimum Width | 1.5 m | 1.8 m | 2.0 m |
| Absolute Minimum Width | 1.2 m | 1.5 m | 1.5 m |

5.3 Typical Shoulder Slope Details for Pavement Rehabilitation

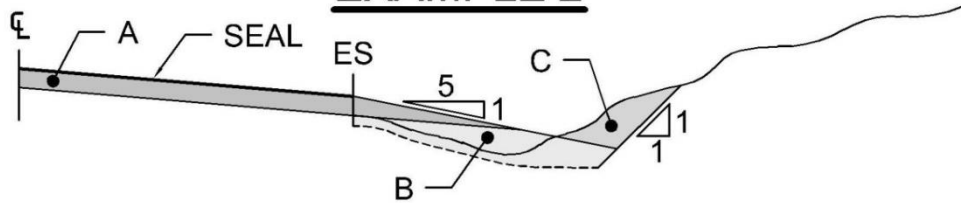
The following diagrams define the extent of shoulder treatment required within the unit rate applicable for each of the base pavement rehabilitations.



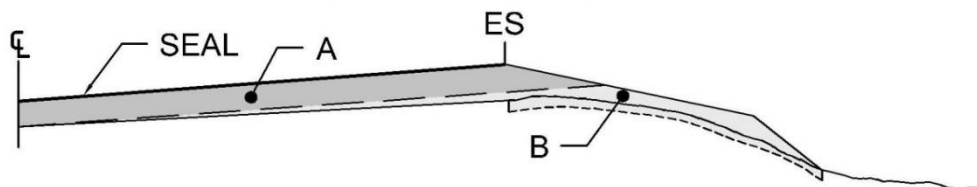
EXAMPLE 1



EXAMPLE 2



EXAMPLE 3



KEY:

- | | |
|---|--------------|
| A | BASECOURSE |
| B | SOLID FILL |
| C | CUT TO WASTE |

NOTES

The solid measure of basecourse to be allowed in the scheduled rate is Area A (as shown in the typical cross-sections) and shall be based on the nominal overlay depth as defined in the Maintenance Specification, Tables 6.1.2 to 6.1.3 within the existing cross-section. This volume shall include the first 0.5m of unsealed shoulder (i.e. to the point where the bottom of the overlay layer meets the new shoulder surface).

For clarity, the tendered base rates shall also allow for the removal of all high lip, shoulder vegetation and all earthworks required to form a 1:5 shoulder slope that extends 2.0m beyond the new edge of seal (thus providing a surface water channel at least 0.4m deep); refer to the areas marked B and/or C on the typical cross-sections.

Area B represents the quantity of materials in excess of that allowed for in the Area A base rate as defined above. Area B therefore provides for additional material to address deep ruts, uneven surface shape, camber or superelevation, filling of dips in the longitudinal profile, additional seal width and /or shoulder fill where it is agreed these improvements are necessary. (i.e. Area B equals (Total volume of basecourse + Total volume of sub-basecourse + Total volume of solid fill) minus (Total volume of Area A Basecourse))

The Area B quantity shall be paid for at the appropriate rates for additional basecourse/sub basecourse or solid fill material.

It is recognised that the typical profiles indicated in examples 1 to 3 are not always achievable or cost effective due to site specific issues or constraints. Amendments will often be required in order to provide a more cost-effective solution. These issues shall be discussed and the outcomes agreed with the Principal prior to completing final design. Examples might include the use of steeper and /or narrower unsealed shoulder slopes in order to best fit the existing formation width, the use of gabion baskets to widen the formation, the use of subsoil drains to avoid extensive earthworks in cuttings and the likes.

Such changes shall be reflected when determining the final quantity associated with Area B. Other agreed solutions shall be at scheduled contract rates or by negotiation where none exist.

5.4 Selection of Sealing Treatments

INTRODUCTION

This document is intended as a guideline to aid the Principal when reviewing the Contractor's submitted Annual Renewals Programme (Annual Plan). The basis of this guide is that there is agreement between the Contractor and the Principal that:

A chip seal is appropriate

A chip seal can deliver the desired skid resistance

Pre-resurfacing repairs are (or will be) completed prior to sealing in accordance with the requirements of the Maintenance Specification.

Basic Philosophy

The contract emphasises a consultative and collaborative approach and thus the following guidelines should contribute to this goal.

THE GUIDE

Single Coat Seals

It is the Principal's intention to promote the use of single-coat seals wherever possible; therefore, a single-coat seal should be used unless the traffic stresses are such that the risk is unacceptable. See the risk and stress tables for guidance.

Risk Management

It is important that the risks associated with surface treatment are considered. Table 6.4.1 provides a ranking based on an estimate of risk. Those surfacings with three ticks are considered to have a low risk of failure for the particular seal coat, two ticks are higher risk and one tick is the highest risk. Chip seals have been successfully constructed in the areas designated with one tick but care must be applied. Positive traffic control as described in *Chip Sealing in New Zealand: Chapter 11 Practice Note 1* should be considered for all chip seals, but is particularly important in areas where the risks are higher or where a polymer modified binder (PMB) is used.

If a PMB is being considered, then discussion with the Contractor on the type, concentration and performance expectation need to be agreed.

Table 6.4.1 sets a numeric stress factor (1 to 6) for each seal type and Table 6.4.2 relates the numeric stress factor to on-road conditions. Table 6.4.1 does not make a distinction between a racked-in and a two-coat seal. This is to reflect that there is no clear distinction between the amount of stress these seals will accept. Table 6.4.1 should be considered as a guide. It is suggested that local experience be used in the first instance, but it is important not to be overly conservative. For example, if a two-coat seal has been successful previously, it does not mean that a single coat would not also be successful.

| TABLE 5.4.1: RISK TABLE | | | | | | |
|--|----------------|-----|-----|-----|-----|---|
| SEAL TYPE | STRESS FACTORS | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Single coat | √√√ | √√ | √ | x | x | x |
| Single coat + active traffic control | √√√ | √√√ | √√ | x | x | x |
| Single coat + active traffic control + PMB | √√√ | √√√ | √√√ | √√ | x | x |
| Racked-in | √√√ | √√√ | √√√ | √√ | x | x |
| Racked-in + active traffic control | √√√ | √√√ | √√√ | √√√ | √√ | x |
| Racked-in + active traffic control + PMB | √√√ | √√√ | √√√ | √√√ | √√√ | x |
| Two Coat | √√√ | √√√ | √√√ | √√ | x | x |
| Two coat + active traffic control | √√√ | √√√ | √√√ | √√√ | √√ | x |
| Two coat + active traffic control +PMB | √√√ | √√√ | √√√ | √√√ | √√√ | x |

- X Not recommended unless traffic volume and speed is low.
- √√√ Should perform satisfactorily
- √√ Should be considered, especially at lower traffic volumes
- √ Marginal

Table 6.4.1 is presented in order of preference, i.e. the Principal should be applying tension towards the single-coat seals and only selecting more expensive seals if they are justified.

Racked-in seals are preferred to two-coat seals:

- Better customer care can be delivered during seal construction
- Racked-in seals may be marginally less expensive than two-coat seals.

Stress Table

Table 6.4.2 relates the on-road conditions to numeric stress factors 1 to 6. Thus, there should not be a problem when selecting a single-coat seal for a stress factor of 1. However, it is not recommended that a single coat is used where the stress factor is 4 and above.

| TABLE 5.4.2: CURVE AND GRADIENT STRESS | | | | | |
|--|------------------------------------|--|--|--|---|
| STRESS FACTORS | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| Gradient <5% | Gradient 5-10% | Gradient >10% | Trucks braking (intersections including traffic signals, stop and give way) >50 HCV//day | Rural curves 250–400m radius and >10% gradient | Rural and urban curves <250m radius and > 10% gradient |
| One-lane bridge decks (Note: One-lane bridges have < 4000 vpd) | Curvature (advisory speed >70km/h) | Curvature (advisory speed >70km/h) and >10% gradient | Approaches to Railway level crossings (high volume roads) | Rural and urban curves (advisory speed 50 – 70 km/h) and >10% gradient | Rural and urban curves (advisory speed 0 – 50 km/h) and >10% gradient |
| Undivided carriage-ways (event-free). | Rural curves >400m radius | Rural curves 250–400m radius | Railway Crossing 20 – 50 HCV//day | Rural and urban curves <250m radius | Approaches to and the circular section of roundabouts >50 HCV//day |
| Divided carriage-ways (event-free). | | Rural curves 400m - 800m radius and >10% gradient | Trucks turning (intersection) 20 – 50 HCV//day | Rural and urban curves (advisory speed 0 - 50km/h) | |
| | | Rural and urban curves (advisory speed 50 – 70 km/h) | Pedestrian Crossing 20 – 50 HCV//day | Approaches to and circular section of roundabouts <50 HCV//day | |
| | | Trucks braking (intersections including traffic signals, stop and give way) <50 HCV//day | | Trucks braking (Pedestrian and Railway Crossings) >50 HCV//day | |
| | | Approaches to one-lane bridges (Note: One-lane bridges have < 4000 vpd) | | Trucks turning (intersection) >50 HCV//day | |
| | | Approaches to intersections and on ramps with ramp metering. | | | |

| TABLE 5.4.2: CURVE AND GRADIENT STRESS | | | | | |
|--|---|--|---|---|---|
| STRESS FACTORS | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| | | Trucks braking (Pedestrian and Railway Crossings) <20 HCV/l/day | | | |
| | | Trucks turning (intersections, commercial driveways) <20 HCV/l/day | | | |
| | | Motorway junction area (including on/off ramps) | | | |

Other Considerations

There may be reasons in addition to high stresses for selecting various seal types these include:

Snow, ice and frost-prone roads – consider a multi-coat seal

Large macrotexture – consider a void fill

Large variation in texture – consider a texturiser

Flushing or smooth-textured pavement surfaces – consider a sandwich seal

Customer care where there are concerns with traffic delays and to reduce loose chip, pick-up of binder on tyres and tracking – consider using Same Day Sealing as described in *Chip Sealing in New Zealand Chapter 11 Practice Note 2: Racked-in seal to minimise traffic delays during resealing*)

Noise – follow the advice in Guide to state highway road surface noise, Draft v0.6, Transport Agency, January 2013 January 2014.

5.5 Standard Format for Planning Assessment Report

Prior to completing a Planning Assessment Report, discuss the requirements with the Principal's Consents and Approvals Group representative to confirm the level of assessment required.

| | | | | | |
|---|--|--|---|------------------------------------|--|
| NTC/ Ref No | | <i>Date Received</i> | | <i>Due Date</i> | |
| <i>Case Manager/ Contact Name</i> | | | | | |
| <i>Applicant</i> | | <i>Applicant's Consultant</i> | | | |
| <i>Brief description of proposal</i> | | | | | |
| <i>Site Location</i> | | <i>Displacement</i> | | <i>Posted Speed</i> | |
| <i>Road Name</i> | | <i>Limited Access Road- CP details</i> | | <i>Lane Width (Shoulder Width)</i> | |
| <i>Local Authority</i> | | <i>Crash History</i> | | | |
| <i>M & O/ Capital future works in vicinity</i> | | | | | |
| <i>Sight Distances (m) - inc / dec</i> | | | <i>AADT (vpd)</i> | | |
| <i>Access Standard (existing)</i> | | | <i>Additional Traffic Generated (vpd) by proposal</i> | | |
| <i>Carriageway Characteristics – (kerb/ channel/ no passing lines etc.)</i> | | | | | |
| <i>Road/ surrounding environment characteristics – alignment etc.</i> | | | | | |

| | |
|--|--|
| <i>Any other comments – distance to intersection/ other accesses/ lamp-posts/ electricity poles etc.</i> | |
| <i>Recommendation</i> | |
| <i>Contractor's Signature</i> | |

Appendix – Photos of site

5.6 Statutory Approvals - Resource Consents and Designations

An up to date list of current consents and designations is contained within CS-VUE. Please liaise with the Principal's Consents and Approvals Group to obtain this data.

| TABLE 5.6.1: RESOURCE CONSENTS | | | |
|--------------------------------|------------------|----------------|--------------------------------|
| ROAD NAME | START DISPL. (M) | END DISPL. (M) | CONSENT NUMBER AND DESCRIPTION |
| <<to complete>> | | | |
| | | | |
| | | | |
| | | | |
| | | | |

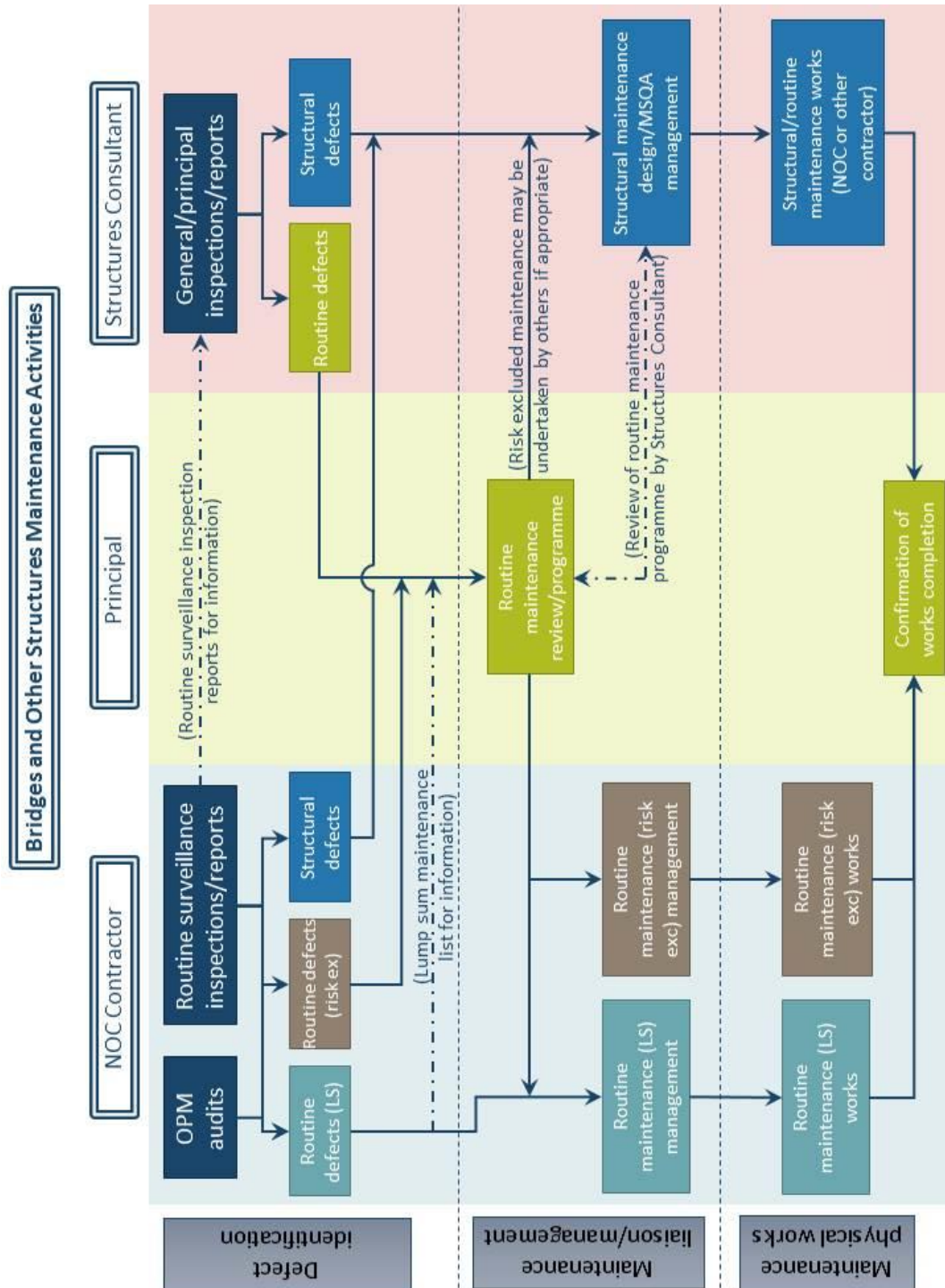
| TABLE 5.6.2: DESIGNATIONS | | | |
|---------------------------|------------------|----------------|---------------------------|
| ROAD NAME | START DISPL. (M) | END DISPL. (M) | REFERENCE AND DESCRIPTION |
| <<to complete>> | | | |
| | | | |
| | | | |
| | | | |
| | | | |

5.7 Inventory of Bridges and Other Structures

<<Insert inventory hardcopies behind this page>>

5.8 Bridges and Other Structures Maintenance Activities Flowchart

<<Insert inventory hardcopies behind this page>>



5.9 Death and Serious Injury Crash Reports

The following table is an example of the content for a death or serious injury crash report.

| | | | | |
|---|---|----------------------|------------------------------|------------------------|
| <i>Reference Number</i> | XXX | | | |
| <i>Type of Crash</i> | Death or Serious Injury | | | |
| <i>Advice to Principal</i> | Maintenance Contract Manager of Principal and Location was notified on day/date at time by Contractor Name | | | |
| <i>Road Name</i> | State Highway XX | | | |
| <i>Crash Location</i> | Location of crash in terms of LRMS and local names | | | |
| <i>Date of Crash</i> | Date of crash | <i>Notified Date</i> | Notified date of crash | |
| <i>Time of Crash</i> | Time of crash | <i>Notified Time</i> | Notified time of crash | |
| <i>Direction of Travel</i> | Explanation of vehicles and movements | | | |
| <i>Injury Severity</i> | Number of deaths and serious injuries | | | |
| <i>Number of Vehicles involved</i> | Number of vehicles involved | | | |
| <i>Vehicle Type and Driver Details</i> | Vehicle make, model, registration number(s) and driver details such as name and age for all vehicles involved | | | |
| <i>Description of Crash</i> | Description of apparent sequence of events | | | |
| <i>Possible Causes</i> | Possible causes | | | |
| <i>Incident Management</i> | <i>Authority</i> | <i>Closure Type</i> | <i>Time Implemented</i> | <i>Actual Duration</i> |
| | Police etc. | Full / Partial | Time closure was implemented | Duration of closure |
| <i>Detour Implemented</i> | Details of roads/streets utilised and any signage e.g. speed and direction | | | |
| <i>Damage to assets</i> | Explanation of damage to any of the Principal's assets | | | |
| <i>Repair Work Required</i> | Explanation of any repair work required and likely costs | | | |
| <i>Weather Conditions</i> | Weather conditions at time of crash | | | |
| <i>Road Condition</i> | Condition of road at time of crash | | | |
| <i>Cross-section at Point of Impact</i> | Explanation of the road lane and shoulder widths | | | |
| <i>Vertical Geometry</i> | Explanation of the road vertical geometry | | | |
| <i>Horizontal Geometry</i> | Explanation of the road horizontal geometry | | | |

| | | | |
|---------------------------------------|--|---------------------|------------|
| <i>Junction Control</i> | Explanation of any junction layouts and control | | |
| <i>Speed Limit</i> | Speed limit and operating speeds | Was Speed a Factor? | Yes or No |
| <i>Road Factors Involved</i> | Explanation of the road factors involved | | |
| <i>Environmental Factors Involved</i> | Explanation of the environmental factors involved | | |
| <i>Pavement Marking</i> | Explanation of the pavement marking | Condition? | Good, Poor |
| <i>Signage</i> | Explanation of the signage | Condition? | Good, Poor |
| <i>Surface</i> | Explanation of the road surface | Condition? | Good, Poor |
| <i>Lighting</i> | Explanation of any lighting in the vicinity | Condition? | Good, Poor |
| <i>Hazards</i> | Explanation of any hazards such as culverts within the vicinity | Condition? | Good, Poor |
| <i>Crash History</i> | <p>A record of crashes that have occurred historically near this location</p> <p>Only to be completed for death and serious injury crashes</p> | | |
| <i>Completed and Proposed Works</i> | Explanation of historical works such as resealing and what is proposed in accordance with the forward works programme | | |
| <i>Discussion</i> | Discussion resulting from the crash and information available | | |
| <i>Conclusions</i> | Conclusions made from the crash | | |
| <i>Recommendations</i> | Recommendations for the Principal | | |

| | |
|------------------------------|---|
| <i>Prepared By</i> | Name of person who prepared report |
| <i>Reviewed By</i> | Name of person who reviewed report |
| <i>Approved for issue By</i> | Name of person who can approve the report to be issued to the Principal |

APPENDIX A – PHOTOGRAPHS

APPENDIX B – MAP or AERIAL PHOTOGRAPHY (at 1:10,000 or similar)

APPENDIX C – POLICE DEATH TRAFFIC INCIDENT REPORT (if available)

APPENDIX D – CRASH HISTORY

APPENDIX E – SKID RESISTANCE ANALYSIS GRAPHS (if appropriate)

APPENDIX F – FORWARD WORKS PROGRAMME (if appropriate)

APPENDIX G – MEDIA ARTICLES (if available)

5.10 Geological Hazard Site Inspection Register

| TABLE 5.10.1: REGISTER OF GEOLOGICAL HAZARD SITES | | | | | |
|---|------------------|----------------|------|-------------|-------------------------------|
| ROAD NAME | START DISPL. (M) | END DISPL. (M) | SIDE | DESCRIPTION | INSPECTION INTERVAL AND SCOPE |
| <<to complete>> | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

6 PHYSICAL WORKS

6.1 Guide to Auditing Pavement and Surfacing Renewals

Introduction

This document has a number of purposes:

- To be an internal guideline for the Principal
- To give the Contractor transparency and insight into the Principal's involvement in auditing pavement and surfacing renewals
- To aid the Contractor in working collaboratively with the Principal in developing appropriate quality plans for pavement and surfacing renewals in order to ensure that an appropriate level of quality is assured.

The guide amplifies that the Principal will audit the Contractor's physical works processes, both on site and off site, and the Principal will also be involved in the Contractor's own quality auditing processes. The level of Principal auditing is related to the confidence that the Principal has in obtaining a quality outcome. Therefore, it would be expected that the level of auditing at the beginning of the Contract Period will be more intense until the Principal is satisfied that a quality product is being delivered by the Contractor in their own right.

The Contract Document emphasises a consultative and collaborative approach and thus the guidelines in this document contribute to this goal.

Basic Philosophy

The delivery of pavement and surfacing renewals within this contract involves a collaborative design process, measure and value payment for works undertaken, followed by measurable post-construction outcome expectations. The outcome expectations are supported by potential penalties for non-performance. This places a level of risk and ownership on the Contractor.

It should not be expected that these measured renewal outcome expectations alone will deliver the textbook required result for the Principal. The development and adherence to appropriate quality assurance procedures based on best practice will be required to complement the outcome renewal elements of the contract. The Principal has a desire to be involved in the Contractor's renewal quality management process for development and implementation.

For each pavement rehabilitation site, the Contractor is required to develop a Rehabilitation Quality Plan (RQP) as in Section 6 of the Maintenance Specification. For each surfacing renewal programme the Contractor is required to develop a Resurfacing Quality Plan in accordance with Section 6 of the Maintenance Specification. The Principal will seek every opportunity to work with the Contractor to collaboratively develop these plans for each site/programme. The RQPs will set out the auditing, inspection, testing and hold points within the Contractor's construction process to ensure that the required quality is obtained. The contract permits a coordinated development process for these plans, and the Principal will therefore proactively take this opportunity to ensure these plans:

- Follow current best practice
- Will deliver the necessary end product quality confidence levels
- Have appropriate reporting provisions
- Are achievable (believable/realistic)

- Match the designed treatment requirements and project risks
- Enable active participation of the Principal on Site, at critical stages during construction
- Provide the Principal with visibility of key information off Site, at critical stages prior to and during construction.

Typically, construction quality plans consist of a mixture of **hold** and **inspection** points. The Principal can be actively involved on Site and included in key information flows by being stated as a hold or inspection point party within the RQPs.

The Principal needs to adopt a collaborative approach when working with the Contractor, particularly being mindful of the risk that the Contractor is required to manage within their lump sum responsibilities.

For guidance, the following definitions are provided, which can be expected to be contained within the structure of the Contractor's RQPs.

1. Hold Points

A hold point is applicable where there is vulnerability in the process and it is vital that a particular stage of the production and/or construction of road materials meet specification/contract requirements. Hold points shall be carried out by a nominated person. This person should have authority to stop the process if deemed necessary.

2. Inspection Points

An Inspection point is applicable where there is vulnerability in the process and it is vital that a particular stage of the production and/or construction of road materials meet specification/contract requirements. Inspections shall be carried out by a qualified person representing the Principal. This person should have authority to stop the process if deemed necessary.

3. Frequency of Inspection

As already indicated, once confidence has been gained in the quality of the Contractor's product, the audit rate may be decreased. Alternatively, if there is reason to believe risk of non-compliance is greater than acceptable, then the audit rate should be increased. The decision on the audit rate lies with the Principal.

Process Outline

The generic process is depicted in Figure 6.1.1.

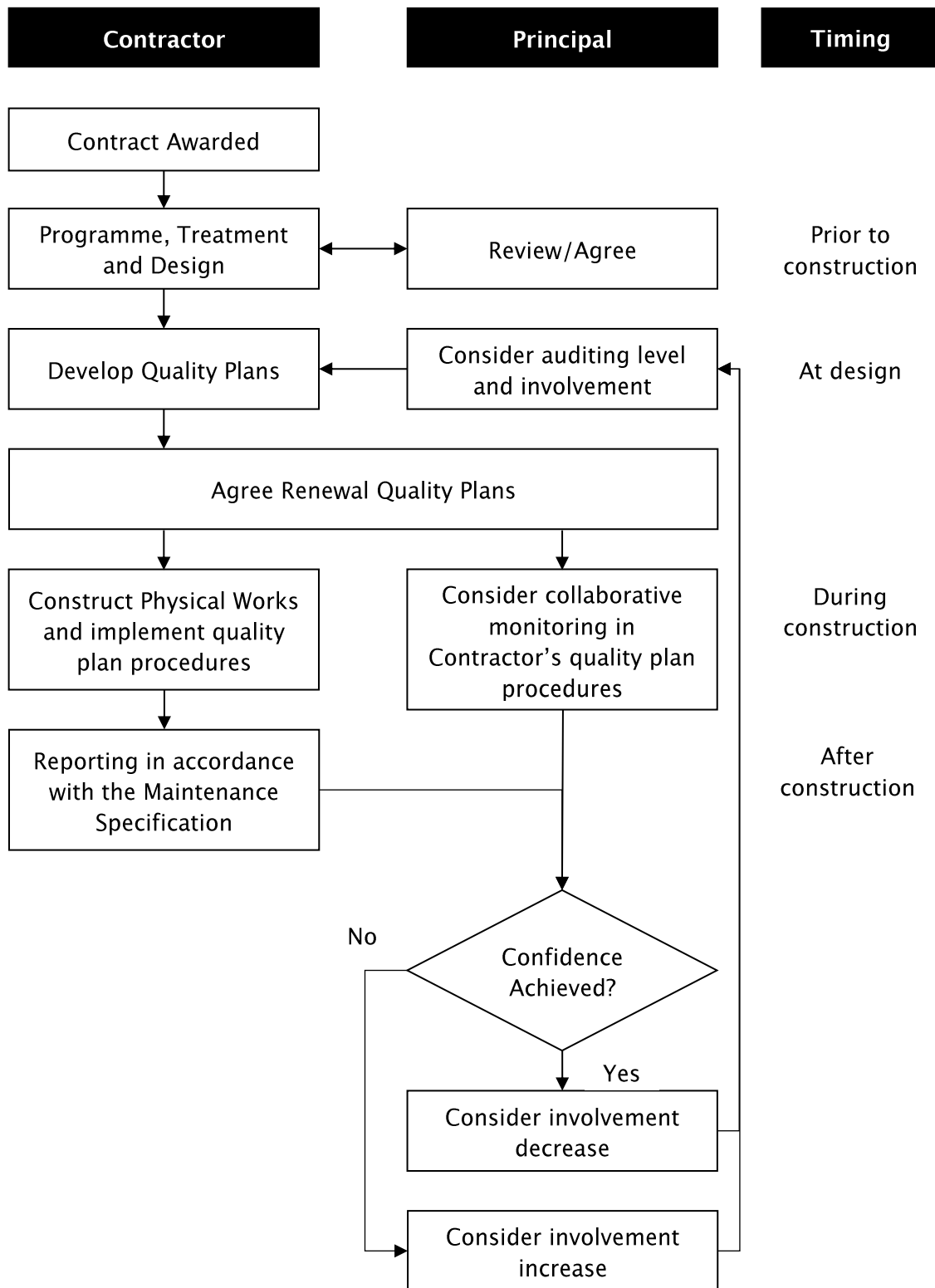


Figure 6.1.1: Inspection Flow Chart

Hold and Inspection Points

Based on the information in the following pages, local knowledge and previous experience with the Contractor, the Principal will develop a list of hold and inspection points for a sample of the renewals.

The Principal will discuss these with the Contractor so that there is understanding between the parties of the important elements in the project and how they are to be addressed.

The Principal has the authority in extreme cases to stop any operation.

For example, if the Contractor's Quality Plan had a minimum lay down paving temperature of say 130C and the mix was 100C, then the Principal could insist that the material should not be laid as the probability of achieving the specified density would be low. It would be expected that the Contractor would also issue an explanation of why the mix had been delivered outside the accepted temperature limit.

This situation should be covered by the Contractor's own quality plan.

It is expected that there will be very few occasions where the Principal would need to stop operations.

There are contentious situations such as the sealing of a basecourse when the weather conditions are changeable. The basecourse may not have dried back to the agreed percentage saturation, but the Contractor wishes to seal the surface to protect it from expected rain. These types of issue should be identified in the Site-specific plan and agreement reached with the Principal.

Feedback and Improvement

The Contractor and Principal should be communicating regularly on quality aspects; therefore, a feedback loop is required to ensure that lessons learnt are incorporated in future jobs.

Example Process Details

The tables below provide examples of typical quality process steps that can be expected to be included within the Contractor's Rehabilitation and Resurfacing Quality Plans.

The quality plan processes will cover the design, material selection and the construction phases. These should be considered as an initial guide and the Principal has the opportunity to work collaboratively with the Contractor to develop project-specific audit criteria including Principal participation.

| TABLE 6.1.1: CHIP SEALS | | | | |
|-------------------------|------------------------------------|-------------------------|--|--------------------------------|
| STAGE | AREA | INSPECTION / HOLD POINT | ACTION | COMMENT |
| Design | Type of seal and site acceptance | Hold point | Principal agrees with Contractor on the seal type and performance requirements for the site. | |
| Material | Binder | Hold point | Q/C agree for PMB | |
| | Chip | Hold point | ALD of stockpile PSV complying with Transport Agency M/6 and seal design | |
| Construction | longitudinal overlap of spray runs | Inspection point | | |
| | Chip application rates | Inspection point | | |
| Clean up | Loose chip | Inspection point | | Important for "Customer First" |
| Post Construction | Traffic speeds | Inspection point | | Seal protection |

| TABLE 6.1.2: DENSE ASPHALT CONCRETE | | | | |
|-------------------------------------|--|-------------------------|--|---------|
| STAGE | AREA | INSPECTION / HOLD POINT | ACTION | COMMENT |
| Design | Mix type and maximum aggregate size, minimum thickness and binder type | Hold point | Principal agrees with the mix type and size, minimum thickness and binder type taking into account macrotexture requirements. Is consistent with the pavement design | |
| | Mix design | Hold point | Confirmation that the design is current and complies with Transport Agency M/10 | |

| TABLE 6.1.2: DENSE ASPHALT CONCRETE | | | | |
|-------------------------------------|--------------------------------|-------------------------|---|---|
| STAGE | AREA | INSPECTION / HOLD POINT | ACTION | COMMENT |
| Material | Binder | Hold point | Q/C agree for PMB | PMBs are not covered by a Transport Agency specification and the Q/C properties must be agreed |
| | Aggregate | Hold point | PSV complying with Transport Agency M/6 | |
| Production | | Hold point | Confirmation of Q/C testing that will be performed | In addition to binder content and grading, close attention should be paid to air voids on production sample compacted in the laboratory to the same level of compaction used in design. |
| Construction | Paving plan | Hold point | | Ensure joints are located to optimise ride quality and to avoid wheelpaths. |
| | Segregation | Inspection point | | |
| | Delivery Temperatures | Inspection point | | |
| | Roller size | Inspection point | | |
| | Rolling pattern | Inspection point | Ensure pattern is in conformance of Quality Plan for thin layers | In Transport Agency M/10 thin layers are not cored and thus inspection is required to ensure sufficient rolling is obtained |
| | Joint construction | Inspection point | Ensure construction is in accordance with Quality Plan | |
| | Thickness | Inspection point | | |
| | Random sampling plan for cores | Hold point | Random sampling locations for cores must be developed before paving commences | Ensure joint cores are also taken |

TABLE 6.1.3: OGPA

| STAGE | AREA | INSPECTION / HOLD POINT | ACTION | COMMENT |
|--------------|--|-------------------------|---|---|
| Design | Mix type, maximum aggregate size, minimum thickness and binder | Hold point | Principal agrees with the mix type, size, minimum thickness and whether PMB is to be used | |
| | Mix design | Hold point | Confirmation that the design is current and complies with Transport Agency P/11 | |
| Material | Binder | Hold point | Q/C agree for PMB | PMBs are not covered by a Transport Agency specification and the Q/C properties must be agreed |
| | Aggregate | Hold point | PSV complying with Transport Agency M/6 | |
| Production | | Hold point | Confirmation of Q/C testing that will be performed | |
| Construction | Segregation | Inspection point | | Visually check for excessive binder drain down in bottom of trucks |
| | Delivery Temperatures | Inspection point | | |
| | Paving plan | Inspection point | Ensure pattern is in conformance of Quality Plan for thin layers | |
| | Rolling pattern | Inspection point | Ensure construction is in accordance with Quality Plan | In Transport Agency P/11 layers are not cored and thus inspection is required to ensure sufficient rolling is obtained |
| | Joint construction | Inspection point | | |
| | Thickness | Inspection point | Confirm minimum thickness is being achieved | OGPA is not normally cored, so thickness needs to be observed between paving runs or thickness measured by probing prior to compaction. |

| TABLE 6.1.3: OGPA | | | | |
|-------------------|--------|-------------------------|---|---------|
| STAGE | AREA | INSPECTION / HOLD POINT | ACTION | COMMENT |
| | Finish | Inspection point | Finish in terms of shape, even texture etc. | |

| TABLE 6.1.4: SMA | | | | |
|------------------|---|-------------------------|--|---|
| STAGE | AREA | INSPECTION / HOLD POINT | ACTION | COMMENT |
| Design | Mix type, maximum aggregate size, thickness, and binder | Hold point | Principal agrees with the mix type and size, minimum mix thickness and whether PMB is to be used | |
| | Mix design | Hold point | Confirmation that the design is current and complies with Transport Agency M/10 | |
| Material | Binder | Hold point | Q/C agree for PMB | PMBs are not covered by a Transport Agency specification and the Q/C properties must be agreed |
| | Aggregate | Hold point | PSV complying with Transport Agency M/6 | |
| Production | | Inspection point | Confirmation of Q/C testing that will be performed | In addition to binder content and grading, close attention should be paid to air voids on production sample compacted in the laboratory to the same level of compaction used in design. Also consider binder drain down test on production samples. |
| Construction | Segregation | Inspection point | | |
| | Delivery Temperatures | Inspection point | as per Quality Plan | |
| | Roller size | Inspection point | as per Quality Plan | |

TABLE 6.1.4: SMA

| STAGE | AREA | INSPECTION / HOLD POINT | ACTION | COMMENT |
|-------|-----------------------|-------------------------|---|-----------------------------------|
| | Paving plan | Inspection point | as per Quality Plan | |
| | Rolling pattern | Inspection point | as per Quality Plan | |
| | Joint construction | Inspection point | as per Quality Plan | |
| | Random sampling cores | Hold point | Random sampling locations for cores must be developed before paving commences | Ensure joint cores are also taken |
| | Thickness | Inspection point | Confirm that in situ density and thickness is being achieved | |
| | Finish | Inspection point | Finish in terms of shape, even texture etc. | |

TABLE 6.1.5: GRANULAR BASECOURSE AND SUB-BASECOURSE

| STAGE | AREA | INSPECTION / HOLD POINT | ACTION | COMMENT |
|--------------|---|-------------------------|---|---------------------------------|
| Quality Plan | | Hold Point | | |
| Material | Crushing resistance fines properties | Hold point | Source properties meet Transport Agency M/4 or Transport Agency M/3 | |
| | Grading, broken faces, fines properties | Hold point | Production properties meet Transport Agency M/4 | |
| | MDD and optimum Moisture content | Hold point | Ensure test results are consistent and are based on a grading similar to current production | Ensure solid density is current |
| Construction | Density and degree of saturation | Hold point | Meet specification requirements | |
| | Surface finish | Inspection point | Swept, tight surface | |

TABLE 6.1.6: MODIFIED BASECOURSE AND SUB-BASECOURSE

| Stage | Area | Inspection / Hold point | Action | Comment |
|-----------------------|---|-------------------------|--|---------|
| Design | | Hold Point | The test results and rationale for the additive and its percentage | |
| Quality Plan | | Hold Point | Include any specific details for the seal | |
| Daily Production Plan | | Hold Point | | |
| Material | Aggregate source properties | Hold point | Only for imported aggregates not in situ | |
| | Grading, broken faces, fines properties | Hold point | For imported materials | |

TABLE 6.1.6: MODIFIED BASECOURSE AND SUB-BASECOURSE

| Stage | Area | Inspection / Hold point | Action | Comment |
|--------------|----------------------------------|-------------------------|---|---------|
| Construction | Additive concentration | Inspection point | Testing for ensuring correct additive concentration | |
| | Mixing | Inspection point | Ensure adequate in situ mixing and depth | |
| | Roller | Inspection point | Roller size is as per Quality Plan | |
| | Density and degree of saturation | Inspection point | Meets specification requirements | |
| | Surface finish | Inspection point | Swept, tight surface | |

| TABLE 6.1.7: BOUND SUB-BASECOURSE | | | | |
|-----------------------------------|----------------------------------|-------------------------|--|---------|
| STAGE | AREA | INSPECTION / HOLD POINT | ACTION | COMMENT |
| Design | | Hold point | The assumptions in the pavement design are known | |
| Quality Plan | | Hold point | | |
| Material | Material design | Hold Point | The test results and rationale for the additive and its percentage. The test results are consistent with the pavement design | |
| Production | Additive concentration | Inspection point | Testing for ensuring correct additive concentration | |
| | Mixing | Inspection point | Ensure adequate in situ mixing and depth | |
| Construction | Roller | Inspection point | Roller size is as per Quality Plan | |
| | Density and degree of saturation | Inspection point | Meets specification requirements | |

Other Areas

Any surfacings, materials and/or construction processes proposed by the Contractor that do not have a Transport Agency specification should be accompanied by:

- 1 Evidence from the Contractor of reliability
- 2 A proposed performance specification
- 3 Proposed quality measures.

These shall be agreed with the Principal prior to finalisation of the Site-specific Quality Plan.

6.2 Vulnerable Flooding Areas and Drainage Assets

For vulnerable flooding areas, the stated levels of service in Maintenance Specification, Section 6.4 shall apply for all assets within the vulnerable flooding areas extents.

| TABLE 6.2.1: VULNERABLE FLOODING AREAS | | | |
|--|------------------|----------------|-------------|
| ROAD NAME | START DISPL. (M) | END DISPL. (M) | DESCRIPTION |
| <<to complete>> | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| TABLE 6.2.2: VULNERABLE DRAINAGE ASSETS | | | |
|---|------------|-------|-------------|
| ROAD NAME | DISPL. (M) | ASSET | DESCRIPTION |
| <<to complete>> | | | |
| | | | |
| | | | |
| | | | |
| | | | |

6.3 Culverts, Subsoil, and Horizontal Drains and Outfall Control Devices Maintenance Schedule

| TABLE 6.3: CULVERTS, SUBSOIL, HORIZONTAL DRAINS AND OUTFALL CONTROL DEVICES MAINTENANCE SCHEDULE | | | |
|--|------------------|----------------|--------------------------|
| ROAD NAME | START DISPL. (M) | END DISPL. (M) | MAINTENANCE REQUIREMENTS |
| <<to complete>> | | | |
| | | | |
| | | | |
| | | | |
| | | | |

6.4 Water Quality and Retention Assets Maintenance Schedule

| TABLE 6.4 WATER QUALITY AND RETENTION ASSETS MAINTENANCE SCHEDULE | | | |
|---|------------|----------|--------------------------|
| ROAD NAME | DISPL. (M) | LOCATION | MAINTENANCE REQUIREMENTS |
| <<to complete>> | | | |
| | | | |
| | | | |
| | | | |
| | | | |

6.5 Debris Catch Fence Schedule

| TABLE 6.5: DEBRIS CATCH FENCE SCHEDULE | | | |
|--|------------------|----------------|-------------------|
| ROAD NAME | START DISPL. (M) | END DISPL. (M) | ASSET DESCRIPTION |
| <<to complete>> | | | |
| | | | |
| | | | |
| | | | |
| | | | |

6.6 Graffiti Visible from the Railway

Listed below are structures adjacent or visible from the railway. The list also indicates those structures that have been vandalised with graffiti in the last two years.

| TABLE 6.6: STRUCTURES VISIBLE FROM RAILWAY | |
|--|---|
| STRUCTURE NAME / REFERENCE | VANDALISED WITHIN THE LAST TWO YEARS (YES/NO) |
| <<to complete>> | |
| | |
| | |
| | |
| | |

6.7 Winter Services Requirements

<<Attach Winter Services Requirements>>

6.8 Winter Service Targets and Indicative Quantities

<<Attach Winter Services Targets and Indicative Quantities>>

6.9 Type of Vegetation Control

TABLE 6.9.1: VEGETATION CONTROL – GENERAL

| ROAD NAME | START DISPL. (M) | END DISPL. (M) | SIDE | CONTROL TYPES | COMMENTS |
|-----------------|------------------|----------------|------|---------------|----------|
| <<to complete>> | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

TABLE 6.9.2: VEGETATION CONTROL – STOPPING PLACES/REST AREAS

| ROAD NAME | START DISPL. (M) | END DISPL. (M) | SIDE | CONTROL TYPES | COMMENTS |
|-----------------|------------------|----------------|------|---------------|----------|
| <<to complete>> | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

TABLE 6.9.3: VEGETATION CONTROL – LOCAL MANAGEMENT PLAN AREAS

| ROAD NAME | START DISPL. (M) | END DISPL. (M) | SIDE | CONTROL TYPES | COMMENTS |
|---|------------------|----------------|------|---------------|----------|
| <<to complete and include relevant local management plans>> | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

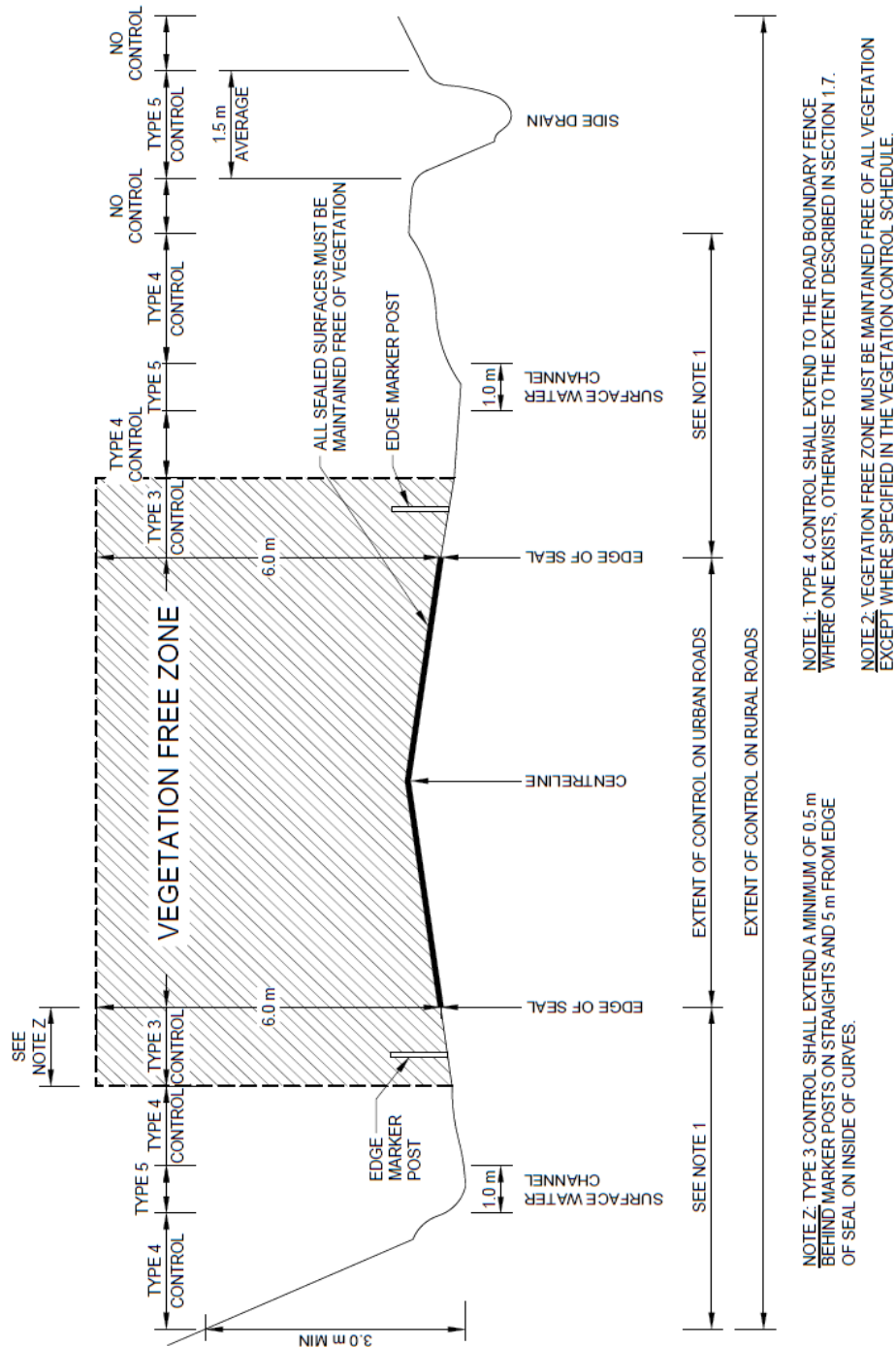
TABLE 6.9.4: VEGETATION CONTROL – MISCELLANEOUS AREAS

| ROAD NAME | START DISPL. (M) | END DISPL. (M) | SIDE | CONTROL TYPES | COMMENTS |
|-----------------|------------------|----------------|------|---------------|----------|
| <<to complete>> | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

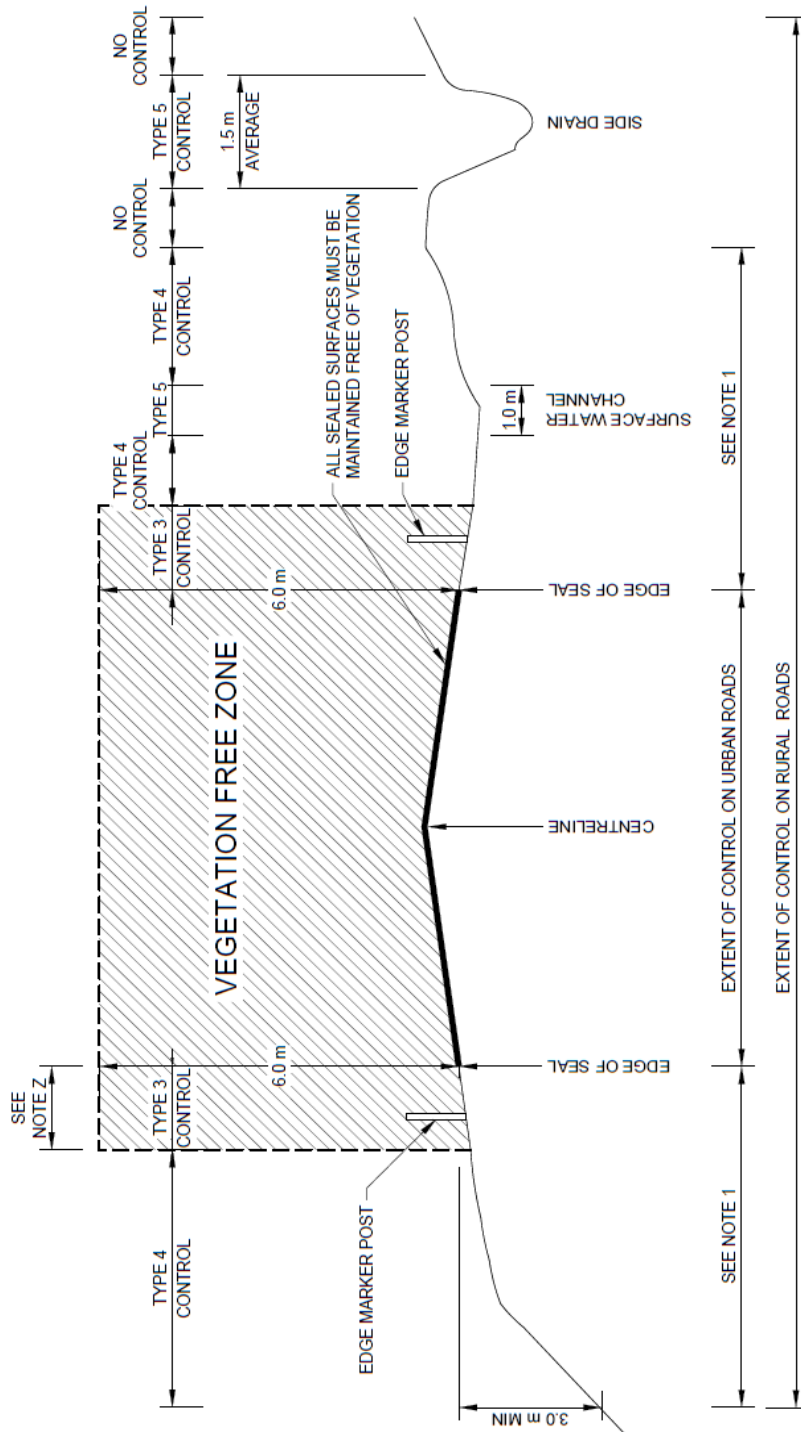
TABLE 6.9.5: VEGETATION CONTROL – OMISSIONS

| ROAD NAME | START DISPL. (M) | END DISPL. (M) | SIDE | CONTROL TYPES | COMMENTS |
|-----------------|------------------|----------------|------|---------------|----------|
| <<to complete>> | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

6.10 Extent of Vegetation Control and Vegetation Management



EXTENT AND TYPE OF VEGETATION CONTROL FOR ROADS WITHOUT KERB AND CHANNEL

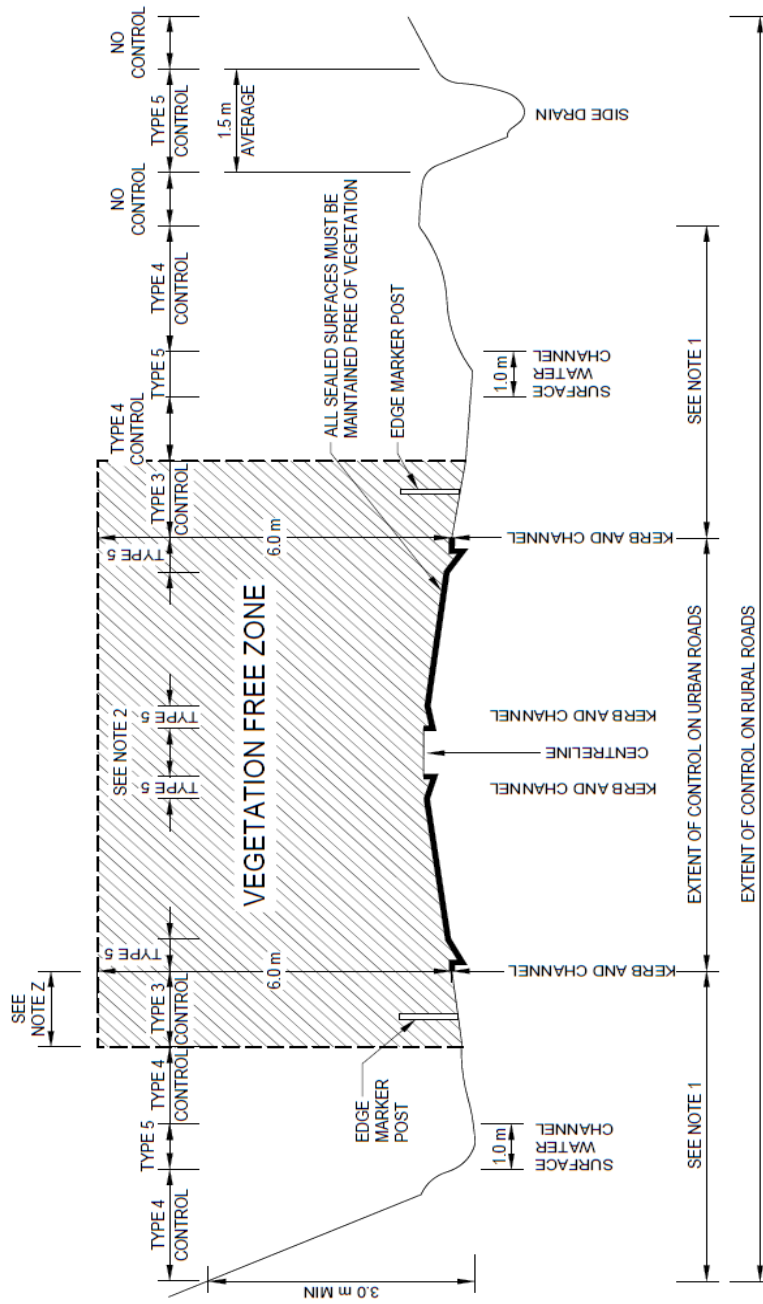


NOTE Z: TYPE 3 CONTROL SHALL EXTEND A MINIMUM OF 0.5 m BEHIND MARKER POSTS ON STRAIGHTS AND 5 m FROM EDGE OF SEAL ON INSIDE OF CURVES.

NOTE 1: TYPE 4 CONTROL SHALL EXTEND TO THE ROAD BOUNDARY FENCE WHERE ONE EXISTS; OTHERWISE TO THE EXTENT DESCRIBED IN SECTION 1.7.

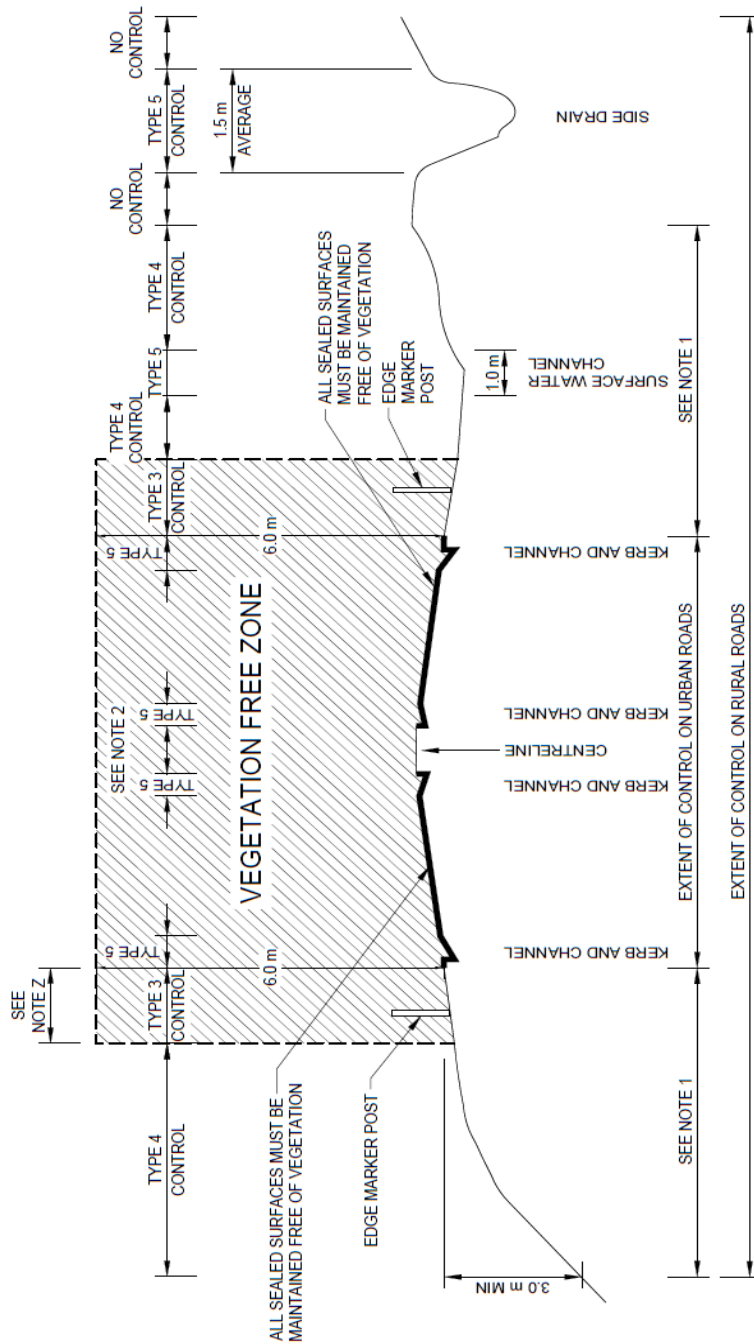
NOTE 2: VEGETATION FREE ZONE MUST BE MAINTAINED FREE OF ALL VEGETATION EXCEPT WHERE SPECIFIED IN THE VEGETATION CONTROL SCHEDULE.

EXTENT AND TYPE OF VEGETATION CONTROL FOR ROADS WITHOUT KERB AND CHANNEL



NOTE 2: TYPE 3 CONTROL SHALL EXTEND A MINIMUM OF 0.5 m BEHIND MARKER POSTS ON STRAIGHTS AND 5 m FROM EDGE OF SEAL ON INSIDE OF CURVES.
 NOTE 1: TYPE 4 CONTROL SHALL EXTEND TO THE ROAD BOUNDARY FENCE WHERE ONE EXISTS, OTHERWISE TO THE EXTENT DESCRIBED IN SECTION 1.7.
 NOTE 2: CONTROL OF GRASSED AREAS ON ISLANDS MUST BE TYPE 1 FOR URBAN ROADS AND TYPE 3/3A FOR RURAL ROADS.
 NOTE 3: VEGETATION CONTROL FOR KERB AND CHANNEL, AND ALL OTHER LINED CHANNELS MUST INCLUDE THE TREATMENT OF VEGETATION AT THE KERB AND CHANNEL/PAVEMENT INTERFACE.
 NOTE 4: VEGETATION FREE ZONE MUST BE MAINTAINED FREE OF ALL VEGETATION EXCEPT WHERE SPECIFIED IN THE VEGETATION CONTROL SCHEDULE.

**EXTENT AND TYPE OF VEGETATION CONTROL FOR
 ROADS WITH KERB AND CHANNEL**



NOTE 3: VEGETATION CONTROL FOR KERB AND CHANNEL, AND ALL OTHER LINED CHANNELS MUST INCLUDE THE TREATMENT OF VEGETATION AT THE KERB AND CHANNEL/PAVEMENT INTERFACE.

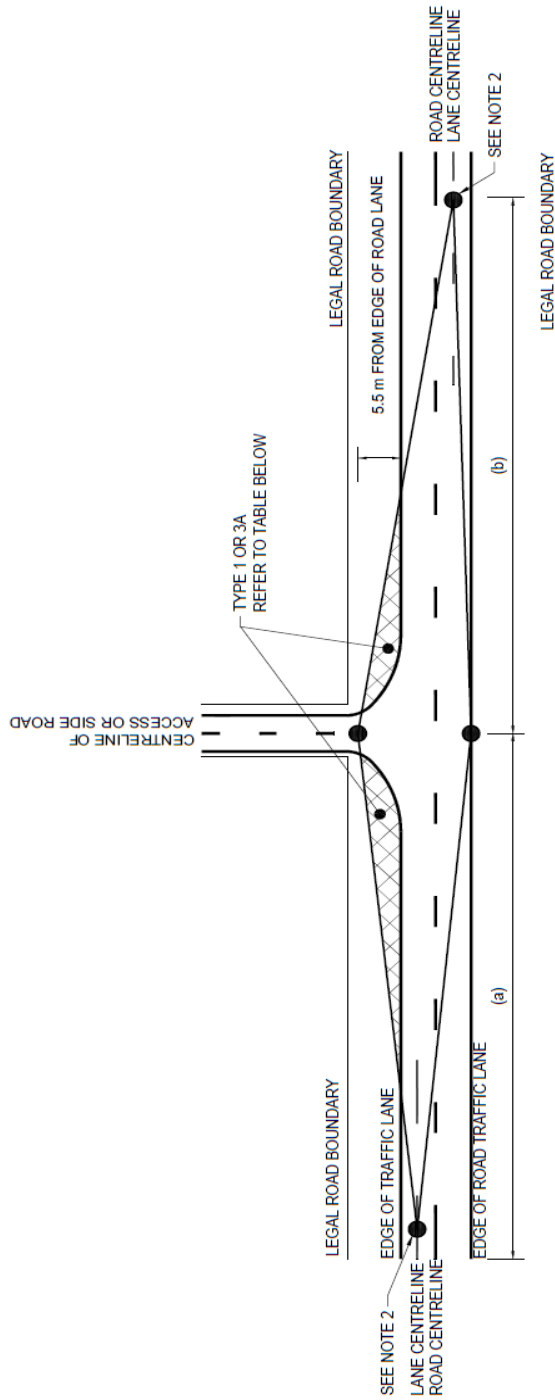
NOTE 4: VEGETATION FREE ZONE MUST BE MAINTAINED FREE OF ALL VEGETATION EXCEPT WHERE SPECIFIED IN THE VEGETATION CONTROL SCHEDULE.

NOTE Z: TYPE 3 CONTROL SHALL EXTEND A MINIMUM OF 0.5 m BEHIND MARKER POSTS ON STRAIGHTS AND 5 m FROM EDGE OF SEAL ON INSIDE OF CURVES.

NOTE 1: TYPE 4 CONTROL SHALL EXTEND TO THE ROAD BOUNDARY FENCE WHERE ONE EXISTS, OTHERWISE TO THE EXTENT DESCRIBED IN SECTION 1.7.

NOTE 2: CONTROL OF GRASSED AREAS ON ISLANDS MUST BE TYPE 1 FOR URBAN ROADS AND TYPE 3/3A FOR RURAL ROADS.

EXTENT AND TYPE OF VEGETATION CONTROL FOR ROADS WITH KERB AND CHANNEL



NOTE 1: SITE DISTANCES SHALL BE MEASURED TO AND FROM A HEIGHT OF 1.15 METRES ABOVE THE EXISTING ROAD SURFACE AND THE PROPOSED SURFACE LEVEL OF THE SIDE ROAD OR ACCESS.

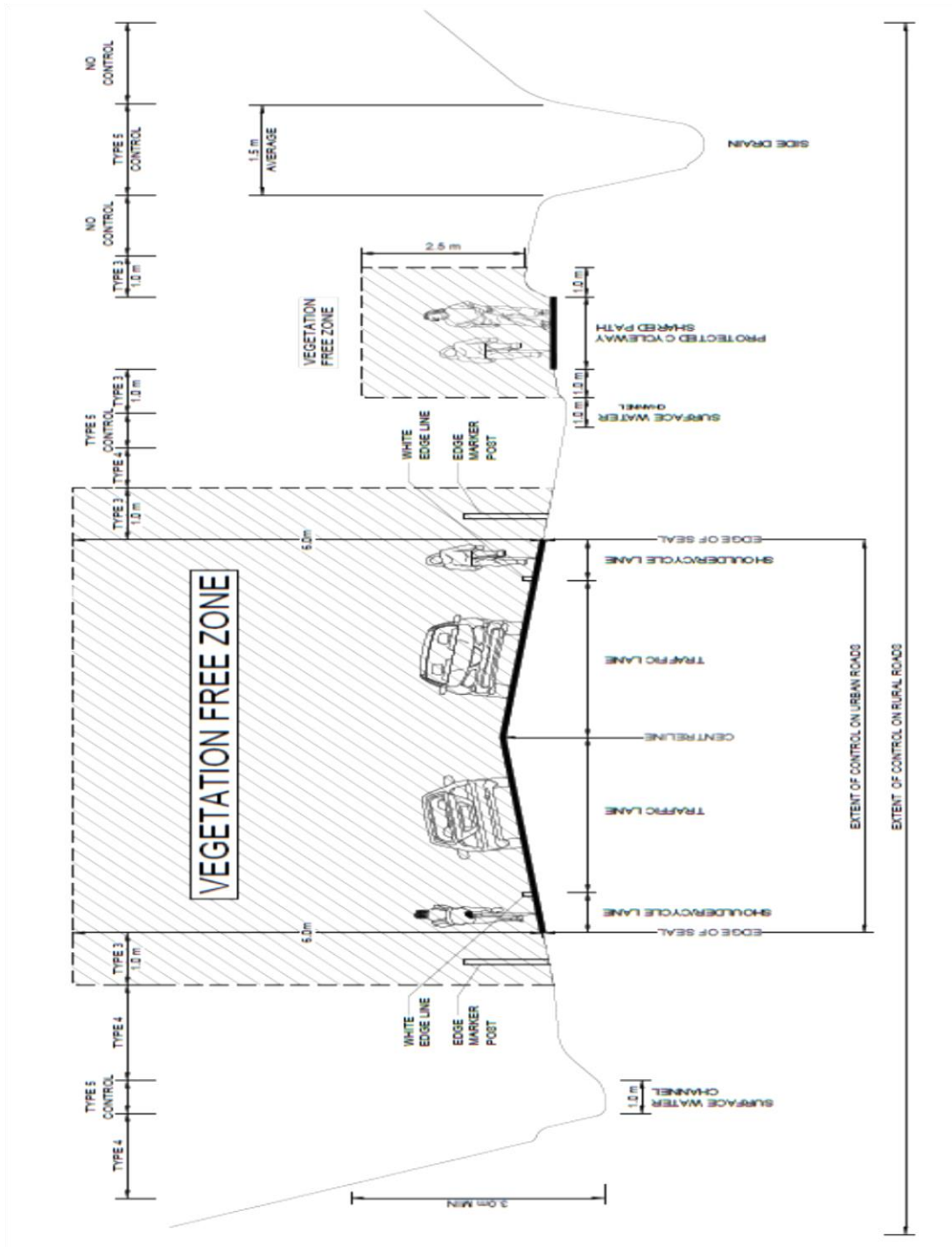
NOTE 2: SITE DISTANCE IS TO THE MIDDLE OF THE TRAFFIC LANE. IF A MULTI LANED ROAD SITE DISTANCE IS TO THE MIDDLE OF THE LEFT HAND LANE.

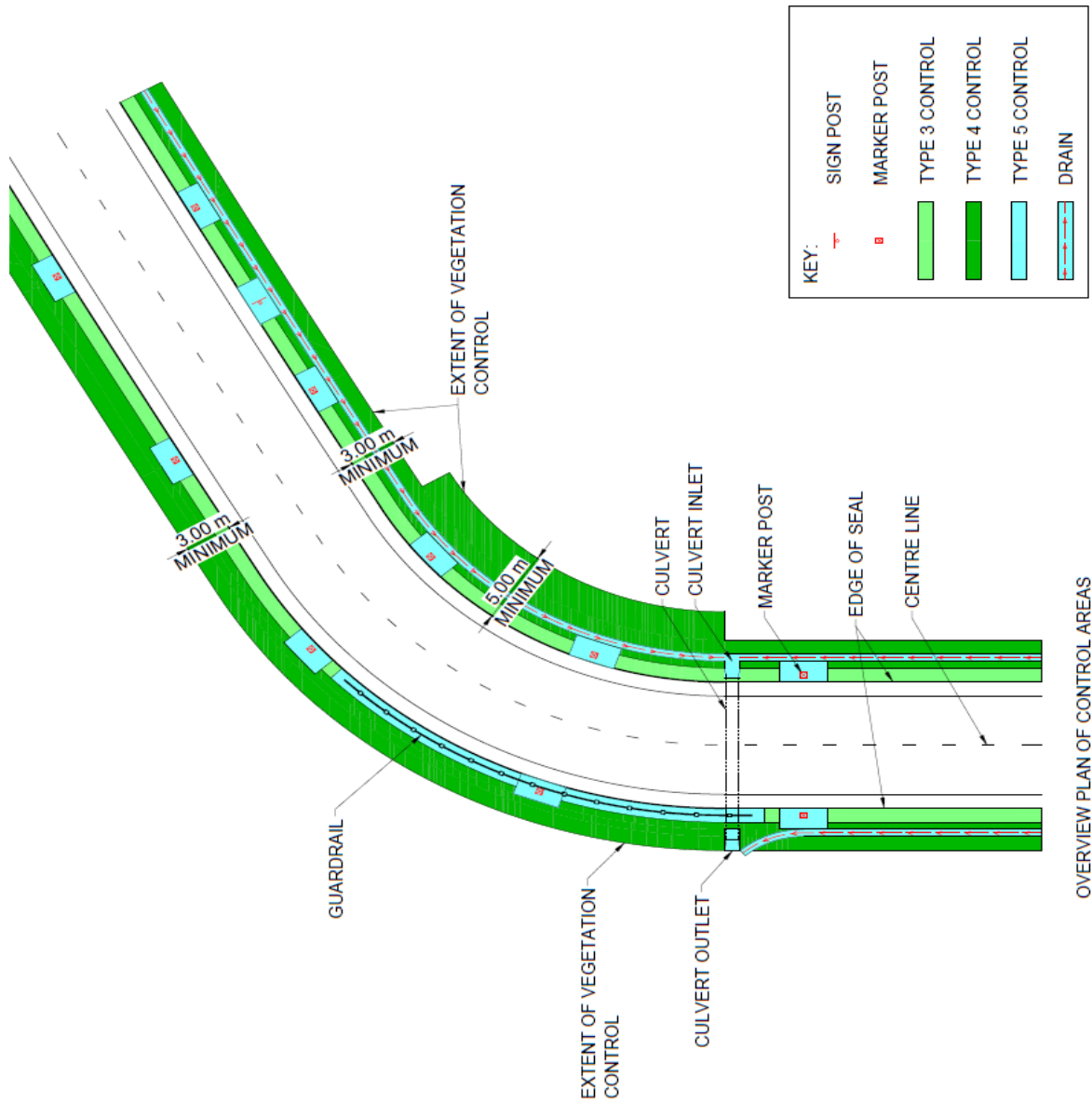
NOTE 3: VEGETATION CONTROL TO MAINTAIN A MINIMUM SIGHT DISTANCE AT INTERSECTIONS AND OTHER DESIGNATED AREAS MUST BE ACCORDING TO THE FOLLOWING TABLE:

| ROAD ENVIRONMENT | MINIMUM SIGHT DISTANCE (a) | TYPE OF VEGETATION CONTROL |
|------------------|--------------------------------------|----------------------------|
| RURAL | 250m OR AS AGREED WITH THE PRINCIPAL | 3A |
| URBAN | 130m OR AS AGREED WITH THE PRINCIPAL | 1 |

VEGETATION CONTROL AT INTERSECTIONS

The vegetation free zone required for cycling facilities is provided below.





<<insert Contract Name>>
Network Outcomes Contract
Contract No: <<insert no>>

<<For Type 7 planted areas maps should be provided>>

6.11 Litter control – High Profile Areas

| TABLE 6.11.1: LITTER CONTROL – HIGH PROFILE AREAS | | | | |
|---|------------------|----------------|------|----------|
| ROAD NAME | START DISPL. (M) | END DISPL. (M) | SIDE | COMMENTS |
| <<to complete>> | | | | |
| | | | | |
| | | | | |
| | | | | |

6.12 Rest Area, Heavy Commercial Vehicle Facility and Formed Stopping Area Maintenance

| TABLE 6.12: REST AREA, HCV FACILITY AND FORMED STOPPING AREA MAINTENANCE REQUIREMENTS | | | | |
|---|------------------|----------------|------|--------------------------|
| ROAD NAME | START DISPL. (M) | END DISPL. (M) | SIDE | MAINTENANCE REQUIREMENTS |
| <<to complete>> | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

<<Table to include 'maintenance of sealed and unsealed surfaces' (roads or accessways), furniture and any planted areas in the space.>>

<<also insert any site-specific management plans that assist in defining the Principal's and Contractor's responsibility.>>

6.13 Electronic Sign Scope and Responsibility

| TABLE 6.13.1: ELECTRONIC SIGN SCOPE AND RESPONSIBILITY SCHEDULE | | | |
|--|--|--|--|
| SIGN TYPE | CLEANLINESS AND OBSCURITY (LUMP SUM ACTIVITY) | MAINTENANCE AND REPAIR (PROVISIONAL SUM ACTIVITY) | COMPLETE BASIC MAINTENANCE INSPECTION (LUMP SUM ACTIVITY) |
| Automatic Number Plate Recognition (ANPR) | x | x | x |
| CCTV | x | x | √ |
| Changeable Message Signs (CMS) | x | x | x |
| Curve Advisory Signs (CAS) | √ | √ | √ |
| Cycle Warning Signs (CWS) | √ | √ | √ |
| Emergency Phones | x | x | x |
| Flood Warning Signs (FWS) | √ | √ | √ |
| Ice Warning Signs (IWS) | √ | √ | √ |
| Journey Time Devices | x | x | x |
| Lane Signal Units (LSUs) | x | x | x |
| Loops and Radars | x | x | x |
| Mobile VMS (MVMS) | √ | √ | √ |
| Principal-owned Weather Stations (excludes Metservice AWS) | √ | √ | √ |
| Over-Height Detection Systems (OHDS) | √ | √ | √ |
| Queue Warning Signs (QWS) | √ | √ | √ |
| Ramp Signalling | x | x | √ |
| Regional Variable Message Signs (VMS) | x | x | √ |
| Rural Intersection Advanced Warning Signs (RIAWS) | x | x | √ |
| Rural School Signs (RSS) | √ | √ | √ |

TABLE 6.13.1: ELECTRONIC SIGN SCOPE AND RESPONSIBILITY SCHEDULE

| SIGN TYPE | CLEANLINESS AND OBSCURITY (LUMP SUM ACTIVITY) | MAINTENANCE AND REPAIR (PROVISIONAL SUM ACTIVITY) | COMPLETE BASIC MAINTENANCE INSPECTION (LUMP SUM ACTIVITY) |
|---------------------------------------|--|--|--|
| School Variable Speed Signs (SVSS) | √ | √ | √ |
| Slip Monitoring Signs (SMS) | √ | √ | √ |
| Solar Traffic Lights | √ | √ | √ |
| Speed Indicator Devices (SID) | √ | √ | √ |
| Tolling | x | x | x |
| Traffic Monitoring System (TMS) | x | x | x |
| Traffic Signals | x | x | x |
| Truck Weighbridge Signs (TWS) | √ | √ | √ |
| Tunnel ITS assets | x | x | x |
| Variable Mandatory Speed Signs (VMSS) | x | x | √ |
| Weigh in Motion (WIM) | x | x | x |

6.14 Basic Electronic Warning Signs Maintenance Checklist

| TABLE 6.14.2 ELECTRONIC WARNING SIGNS MAINTENANCE CHECKLIST | | | | | | | | | | |
|---|------------|-------------------------|-----------------|--|----------------------------------|--------------------------|---------------------------|--|-----------------------------|------------------------------------|
| ROAD NAME | DISPL. (M) | DESCRIPTION OF LOCATION | ASSET | NO DAMAGE: FOUNDATION, POLE, SIGN, SOLAR PANEL | ATTACHMENTS SECURE: SIGN & SOLAR | CLEANLINESS SIGN & SOLAR | NO SHADING OF SOLAR PANEL | CALIBRATION/DISPLAY ACTIVATION (REF METHODOLOGY) | DISPLAY WORKS NO DEAD LEADS | CLEAR LINE OF SIGHT GENERAL SAFETY |
| | | | Refer to Notes: | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| | | | | | | | | | | |
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Notes:

8. Check if sign/solar panel has been clipped by a vehicle or damaged by a missile, and that the foundation socket is secure.
9. Check that all attachments holding sign and solar panel to pole are secure.
10. Check sign and pole are clean with no graffiti, and no excessive build-up of bird droppings on solar panel.
11. Estimate sun's arc (winter/summer). Check there is no excessive shading of solar panel from trees, for example.
12. Sign activation is achieved by:
 - Speed Indication Device (SID): Move a calibrated tuning fork slowly in and out 0.5 - 0.7m in front of radar. The tuning fork is normally calibrated to 45 km/h. Check SID displays the correct speed.
 - Curve Advisory Sign (CAS). Either use two calibrated tuning forks to active the upper threshold (displays arrow and "SLOW DOWN") and lower threshold (displays arrow only), *or* drive towards sign *decelerating to a safe speed* whilst activating the upper and lower thresholds
 - School: May not be activated at time of visit. Phone the school prior to visit and confirm sign display and timer operation are satisfactory.
 - 40km/h School: As for School signs.
 - Cyclist: Roll or ride a bicycle over the induction loops. Or open the Rainbird and take the cable marked 'dry contact output' which should be connected to the cable coming from the sign. Remove this connection and touch the two ends of the cable to the sign together. This should short the connection and activate the sign.
 - Hidden Queue: Turn 3-way switch in control box to "Simulate" for about 10 seconds.
13. With the display activated, check and record the position of any dead LEDs.
14. Ensure no obstruction is blocking approaching road users from seeing the signs. Check general safety.

6.15 Location of Variable Message Signs

| TABLE 6.15: LOCATION OF VARIABLE MESSAGE SIGNS | | | |
|--|---------------|------|------------------|
| ROAD NAME | DISPL. (M) | SIDE | SITE DESCRIPTION |
| <<to complete>> | | | |
| | | | |
| | | | |

6.16 Locations with No Raised Pavement Markers

| TABLE 6.16: LOCATION WITH NO RAISED PAVEMENT MARKERS | | | |
|--|------------------------|-----------------------|---------------|
| ROAD NAME | START DISPL. (M) | END DISPL . (M) | ROAD LOCATION |
| <<to complete>> | | | |
| | | | |
| | | | |

6.17 Locations of Streetlights to Maintain

| TABLE 6.17: LOCATIONS OF STREETLIGHTS TO MAINTAIN | | | |
|---|------------------|----------------|---------------|
| ROAD NAME | START DISPL. (M) | END DISPL. (M) | ROAD LOCATION |
| <<to complete>> | | | |
| | | | |
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6.18 Recurring Hazards

| TABLE 6.18: SCHEDULE OF RECURRING HAZARDS | | | | | |
|--|------------------|----------------|------|-------------|--------|
| ROAD NAME | START DISPL. (M) | END DISPL. (M) | SIDE | DESCRIPTION | HAZARD |
| <<description of specific hazard must be included in this table i.e. rockfall, under-slip, over-slip etc>> | | | | | |
| | | | | | |
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6.19 Site-specific Warning System

The following table includes the locations of any site-specific warning systems on the network.

| TABLE 6.19.1: SCHEDULE OF SITE-SPECIFIC WARNING SYSTEM LOCATIONS | | | | |
|--|------------------|----------------|------|------------------------------------|
| ROAD NAME | START DISPL. (M) | END DISPL. (M) | SIDE | DESCRIPTION |
| <<to complete>> | | | | Refer to Management Plan xx below. |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Management Plan XXX

An automated monitoring system has been installed at this site to provide early warning of slip movement. The system involves a trip wire stretched across a section of the slip to detect ground movement. The trip wire is connected to a detection switch which detects either increased or decreased tension in the wire and triggers an alarm that is sent by a text message to pre-programmed cellular phones. The site is powered by solar panels and batteries. The Contractor will be required to monitor the integrity of the system and provide an answering service for when calls are triggered by storm events.

The maintenance requirements in Table 6.16.2 are to be carried out within the Contractor's lump sum for general maintenance.

| TABLE 6.19.2: SPECIFIC WARNING SYSTEM MAINTENANCE REQUIREMENTS FOR MANAGEMENT PLAN XXX | | |
|--|---|--------------------------|
| ITEM | DESCRIPTION | MAINTENANCE REQUIREMENTS |
| 1 | Check equipment for any signs of damage particularly loss of sealing of lid or conduit entry. | Monthly |
| 2 | Remove build-up of debris, vegetation or silt from trip wire and associated wiring. | Monthly or as required |
| 3 | Send a Status Check text message to the system | Monthly |
| 4 | Check operation by manual tripping of trip wire | 2 monthly |
| 5 | Clean solar panel surface using glass cleaner and soft cloth | 2 monthly or as required |

TABLE 6.19.2: SPECIFIC WARNING SYSTEM MAINTENANCE REQUIREMENTS FOR MANAGEMENT PLAN XXX

| ITEM | DESCRIPTION | MAINTENANCE REQUIREMENTS |
|------|---|--|
| 6 | Adjust trip wire tension in accordance with manufacturer's instructions | 6 monthly or after activation |
| 7 | Replace batteries | 2 yearly (i.e. Dec 2019, 2021, 2023) |
| 8 | After automatic triggering of alarm | Visit site to reset switch and relocate trip wires |

7 NETWORK SPECIFIC INFORMATION AND REQUIREMENTS CONTRACT WORKS

7.1 Winter Remark Locations

| TABLE 7.1: WINTER REMARK LOCATIONS | | | | |
|------------------------------------|------------------|----------------|------------|-----------------------|
| ROAD NAME | START DISPL. (M) | END DISPL. (M) | LENGTH (M) | SPECIFIC REQUIREMENTS |
| <<to complete>> | | | | |
| | | | | |
| | | | | |
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| | | | | |

7.2 Manual Operated Road Sign Locations

| TABLE 7.2: MANUAL OPERATED ROAD SIGN LOCATIONS | | |
|--|------------|-------------|
| ROAD NAME | DISPL. (M) | DESCRIPTION |
| <<to complete>> | | |
| | | |
| | | |
| | | |
| | | |

8 LOCAL ROADS

<<Define any appendices required for local roads.>>

9 TUNNELS

9.1 Tunnel Specific Management, Operations and Maintenance

<<Define the plan for tunnel management>>