PART B

Chapter 2
Landscape and Urban Design Process and Brief

June 2013

Feedback: Please send your feedback regarding this document to: mr.techdocs@tmr.qld.gov.au

Chapter 2 Amendments – June 2013
Revision Register

Issue / Revision No	Reference Section	Description of Revision	Authorised by	Date
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2.1 Introduction

The Department has adopted a project management framework (On_Q) to plan and manage its transport infrastructure projects. This chapter details the role/s of landscape and urban design specialists within this framework. It also includes the scope of works and level of service process and design outputs required to be undertaken by them at each project phase.

2.2 Project Management Framework

The Department's project management framework phases are:

- Concept phase;
- Development phase;
- Implementation phase; and
- Finalisation/ maintenance phase.

Each project management framework phase has an associated landscape and urban design phase, with the development phase being split into two sub phases (Table B2-1). Each phase varies depending on the project type and level of design service required. It is important that project managers and contractors understand the project management framework, their roles, responsibilities, the processes and requirements of each phase, as well as the degree of collaboration, coordination and design outputs required.

The landscape and urban design phases are:

- Concept and Master Planning;
- Preliminary and Detailed Design;
- Contract Documentation and Administration; and
- Finalisation/ Maintenance.

2.2.1 Supporting Process

There are supporting processes to the landscape and urban design phases which include:

- integrated landscape assessment and site analysis;
- planting media management planning;
- cost estimating; and
- safety review.

2.3 Design Consultancy Level of Service

The required level of landscape and urban deign specialist involvement for each of the project design phases is based on the project type and the road landscape frameworks (Chapter 3 of Part A). The table below (Table B2-1) depicts two of the four levels of service all Departmental projects are broken into along with the correlative obligation to engage landscape and urban design specialists in the design of road landscape infrastructure associated with the project. Implementation and finalisation are discussed in Chapter 1 of Part D.

		PROJECT TYPES There are generally three project types defined by the Department's Project Management Framework. Type 1 – significant transport infrastructure projects that are complex, high risk or expensive. Type 2 – moderate (or medium) scale projects that are relatively straightforward and low risk. Type 3 – minor scale projects that are enhancements or access related which pose the lowest degree of risk.	(Reference for Detail)	**Type 1**	**Type 2**	**Type 3**
CONCEPT PHASE	CONCEPT	**LANDSCAPE AND URBAN DESIGN**				
		Landscape Assessment	B3			
		• Integrated Landscape Assessment Report		☑		
		• Integrated Landscape Assessment Opinion			☑	
		• Landscape Site Analysis Assessment				☑
		Landscape and Urban Design Concepts	B2			
		• Landscape Master Plan and Report		☑		
		• Landscape Concept Plan and Statement			☑	
		• Landscape Concept Plan and Drawing Note				☑
		Construction Management Strategies	SMM			
		• Soil Management Plan – Link/ Concept		☑	☑	☑
		• Vegetation Management Strategy		☑		
		• Weed Management Strategy				
		Cost Estimate	B2			
		• First Principles		☑		
		• Unit Rate			☑	
		• Global				☑
DEVELOPMENT PHASE	PRELIMIANRY DESIGN	**LANDSCAPE AND URBAN DESIGN**				
		Landscape and Urban Design Preliminary Drawings	B2	☑	☑	
		Safety	C5			
		• Sight Distance and Clear Zone Plan/ Overlay		☑	☑	☑
		• CPTED Review and Report		☑		
		Construction Management Plans	SMM			
		• Soil Management Plan – Design		☑	☑	☑
		• Vegetation Management Plan		☑		
		• Weed Management Plan		☑		
		Cost Estimate – First Principles	B2	☑		

		PROJECT TYPES There are generally three project types defined by the Department's Project Management Framework. Type 1 – significant transport infrastructure projects that are complex, high risk or expensive. Type 2 – moderate (or medium) scale projects that are relatively straightforward and low risk. Type 3 – minor scale projects that are enhancements or access related which pose the lowest degree of risk.	(Reference for Detail)	**Type 1**	**Type 2**	**Type 3**
DEVELOPMENT PHASE	DESIGN DEVELOPMENT	**LANDSCAPE AND URBAN DESIGN**				
		Detail Design Drawings • Specification and Annexure(s) • Tender Schedules	B2	☑	☑	☑
		Special Conditions of Contract • Landscape Representative	B2			
		Landscape Contractor Pre-qualifications	B2			
		Safety • Sight Distance and Clear Zone Plan/ Overlay • CPTED Review and Closeout	C5	☑ ☑	☑	☑
		Construction Management Plans • Soil Management Plan – Design • Vegetation Management Plan • Weed Management Plan	SMM	☑	☑	
		Cost Estimate – First Principles	B2	☑	☑	☑
		Landscape and Urban Design Operational Guidelines	B2	☑	☑	☑

Table B2-1: Transport infrastructure landscape and urban design outputs within the context of the Project Management Framework

The project type, level of design service and phase dictates the landscape and urban design specialist role on projects. The following is a brief description of the components of each phase.

2.4 Concept Phase

2.4.1 Landscape Assessment

An integrated landscape assessment is required on all project types (Chapter 3 of Part B).

2.4.2 Landscape Master Plan and Report

A Landscape and Urban Design Master Plan and Report aims to ensure that the final road development integrates into its setting and provides a unique experience. Landscape master plans represent the broadest level of landscape planning and design for road projects. They provide a coordinated design approach to the landscape and urban design treatment of transport systems and roads within a particular area.

They are an illustrated report, containing plans and supporting written description that documents the design process including site analysis and integrated landscape assessment. This report should also identify specific design strategies which are to be incorporated later design phases.

2.4.3 Landscape Concept Plan and Statement

Landscape Concept Plan and Statement provides broad ideas and proposals that clearly communicate the design intent of the landscape and urban design proposal.

The Concept Plan and Statement should include simple conceptual drawings, cross sections and initial sketches showing broad focus areas and brief design statement that provides evidence of design process. The road landscape design objectives and principles should be the basis for concept designs, allowing translation into appropriate design responses.

2.4.4 Landscape Concept Plan and Notes

A Landscape Concept Plan and Drawing Notes provide the simplest form of broad ideas and proposal that meets the simplest of projects. Notes provided on the plan shall provide evidence of design process.

2.4.5 Soil Management Plans

Soil Management Plans should be undertaken at the planning stages within the project design process to assist in developing effective soil management practices and appropriate material and cost allowances.

For further information on the stages of planting media management planning, refer to the Department's *Soil Management Manual*.

2.4.6 Cost Estimating

Cost estimates should be prepared in accordance with the Department's cost estimating system for projects; Works Management System. Using this format ensures consistency in item rates across the whole of the project. Designers should use current industry prices for all other costs associated with landscape and urban design components. Refer to the Department's *Project Cost Estimating Manual* with regard to global, unit rate and first principle project cost estimates.

2.5 Development Phase

2.5.1 Design Development

The landscape design must be developed, reviewed and certified in consultation with a Registered Engineering Professional, Queensland (RPEQ). The RPEQ, in consultation with the Landscape Architect, shall review the drawings and understand the impacts of the landscape treatments on the civil and structural design components (Chapter 5 of Part C). The signature on the 'issued for construction drawings', demonstrates the RPEQ's responsibility to direct, oversee and evaluate the work of others providing input to the project has been complied with as per the legislation.

As part of the preliminary and detailed design phase clear zone and sight visibility calculations shall be provided to the landscape and urban design specialist by the RPEQ to guide the development of the landscape design. Project specific offset requirements for trees from structural elements shall also be provided to assist in the development of the design.

Clear zones and sight visibility zones must be clearly displayed on all landscape plans and sections to ensure the Landscape Architect develops appropriate design responses relative to the design constraints. This process also assists the RPEQ in reviewing and certifying that the design is in accordance with the safety requirements.

The landscape design must be reviewed and certified by an RPEQ at the completion of the detailed design phase.

2.5.2 Crime Prevention Through Environmental Design Site Assessment

A Crime Prevention Through Environmental Design (CPTED) assessment is required during preliminary and detailed design phases. Issues should be assessed and designs adjusted if required to enable close out prior to implementation (Chapter 5 of Part C).

2.5.3 Soil Management Plans

Soil Management Plans should be undertaken at the design and stage within the project design process to assist in developing effective soil management practices and appropriate material and cost allowances. A Planting Media Management Plan is prepared during the implementation phase to effectively manage soil and to determine the soils physical and chemical properties and associated amendments, to ensure Departmental requirements are met.

For further information on the stages of planting media management planning, refer to the Department's *Soil Management Manual*.

2.5.4 Preliminary Design

During the preliminary design phase, the design is developed to illustrate proposed treatments in greater detail. Preliminary design builds on the master planning phase to provide more detailed layout plans, sections and illustrations for the specific landscape and urban design treatments required.

Preliminary design drawings should clearly demonstrate the characteristics, constraints and opportunities identified by the site analysis. They shall clearly demonstrate the civil and structural constraints, as provided by the RPEQ. They should also indicate landscape and urban design themes, individual treatments, proposed environmental mitigation and disturbance measures, landscape and revegetation treatments, and the suite of urban design components and treatments. Since designs may not be fully resolved at this preliminary stage, areas still requiring resolution should be clearly marked on plans to indicate further design development to occur.

It is still expected however, that all landscape and urban design proposals are resolved to well over 50% in terms of detailed resolution (70-80% preferred), before commencing detailed design stage.

2.5.5 Detailed Design

Detailed landscape and urban design completes the contract documentation for tendering and construction. Detailed design includes plans, sections and details, cost estimates, specifications and other documents required for implementation. Drawings shall indicate landscape and revegetation treatments and operations, and the suite of urban design components and treatments. Drawings shall also clearly demonstrate the civil and structural constraints, as provided by the RPEQ.

Landscape and Revegetation Works Standard and Technical Standards Suite

The standard specifications and technical standards used by the Department for Landscape and Revegetation Works are:

- MRS16 Landscape and Revegetation Standard Specification Suite; and
- MRTS16 Landscape and Revegetation Technical Standard Suite.

These include related Appendices and Annexure and can be downloaded on the Department's website.

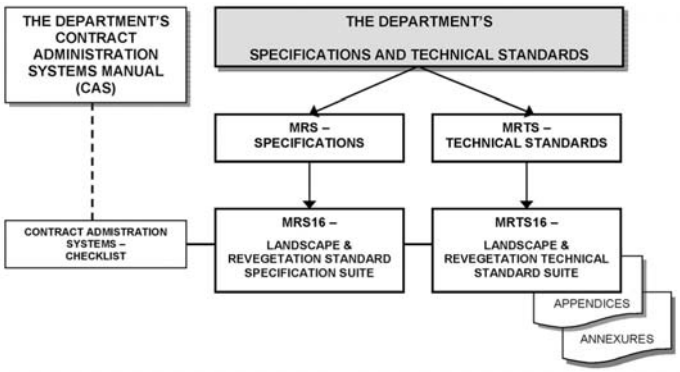

Figure B2-1: Landscape and Revegetation Works Standard Specification and Technical Standards Suite

The use of Standard Specifications versus Technical Standards is relative to the contract type applicable to the project. Figure B2-2 shows when either should be used according to the project's contract type.

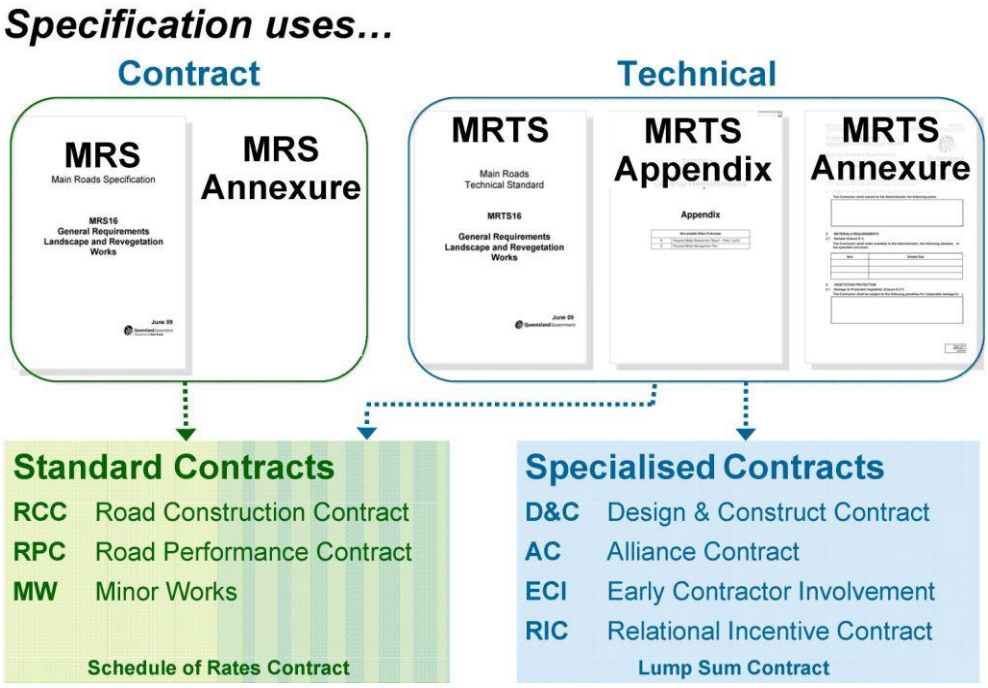

Figure B2-2: The use of Landscape and Revegetation Works Standard Specification or Technical Standards relevant to project's contract type

Annexure

An annexure should be prepared when further technical or performance criteria not covered by the technical standards, need to be included. An annexure is generally required for all road corridor projects. Project specific requirements are added directly into the standard Annexure template form, in a location relevant to the issue. An annexure allow for supplementary conditions to be added or modifications made, and are a key tool for customising specifications directly to a unique project.

For further information refer to the MRS/MRTS16 Specification User Guidelines available on the Department's website.

2.5.6 Cost Estimating

Cost estimates should be prepared in accordance with the Department's cost estimating system for projects; Works Management System. Using this format ensures consistency in item rates across the whole of the project. Designers should use current industry prices for all other costs associated with landscape and urban design components. Refer to the Department's *Project Cost Estimating Manual* with regard to global, unit rate and first principle project cost estimates.

2.5.7 Supplementary Conditions of Contract: Landscape Representative

The Road Construction Contract Supplementary Conditions of Contract has provision for a Landscape Representative to coordinate and provide conformance for the construction of the landscape works under the contract. The minimum experience for this role is 5 years and should be specified in the annexure to the Supplementary Conditions of Contract.

A Landscape Representative should be required where the landscape works exceeds $90,000.

2.5.8 Landscape Contractor Pre-Qualifications

For projects with landscape works exceeding $90,000, the following qualifications are mandatory:

- the company or an individual within that company must hold a license in structural landscaping from the Queensland Building Services Authority;
- a summary of evidence of previous relevant experience or qualifications to supply works of the type proposed;
- evidence of financial viability and capability; and,
- evidence of public liability and property insurance cover.

2.5.9 Operational Guidelines

Operational guidelines are a package of design and maintenance access related information as a reference to maintenance personnel.

2.6 Landscape and Urban Design Project Brief

The following generic design brief (Table B2-1) applies to all QTRIP projects. Its aim is to provide advice to assist TMR project managers and contract administrators as to the minimum requirements for the engagement of landscape and urban design specialists throughout the various TMR Project Management Phases. Discretionary amendments may be made to account for project specifics (issues, constraints, requirements) and contract delivery type.

Mandatory engagement of specialist landscape/urban design personnel is designated with an **M**. **Conditional engagement** is designated with a **C**, meaning project managers may engage these services at discretion. **Advisory engagement** is designated with an **A**, meaning that engagement of specialist personnel is recommended to ensure positive project road landscape outcomes; however mandatory designation should be considered on larger, more complex projects.

CP - Concept phase **DP** - Design development phase **IP** - Implementation phase **FP** - Finalisation phase	**PROJECT MANAGEMENT PHASES**				
	CP & DP			**DP & IP**	**IP & FP**
Notes on Landscape Services: **Peer Review:** undertaken by specialist TMR landscape architectural personnel to ensure compliance with TMR policy & technical governance systems. **Verification:** undertaken by independent party engaged by TMR or Contractor (dependent on contract type) to provide independent verification / peer review & monitor quality control under contract administration. **Superintendent:** undertaken by specialist TMR or Contractor (dependent on contract type) personnel to implement contract construction documentation & contract administration. **Advisor:** undertaken by specialist TMR or Contractor (dependent on contract type) personnel to provide specialist advice in a support role to non-specialist Superintendent in contract administration; this role is to be engaged where a suitable landscape/urban design specialist is unable to be engaged as a landscape construction Superintendent on the project	**CONCEPT DESIGN**	**DETAILED DESIGN**	**PEER REVIEW**	**VERIFICATION**	**SUPERINTENDENT / ADVISOR**
LANDSCAPE BRIEF CRITERIA	**LANDSCAPE SPECIALIST SERVICES**				
QUALIFICATIONS					
Landscape and urban design phases and process must be undertaken by qualified and experienced Landscape Architect/s & Urban Designer/s with a minimum five years experience in design of transport infrastructure projects.	M	M	C	A	
Landscape and urban design implementation (construction) phases and process must be managed / supervised or advised by qualified landscape personnel (refer MRTS16 for qualification requirements)			C	A	M
DESIGN - COLLABORATION					
Be engaged and fully committed from the commencement of the road design phases & process stages inclusive of but not limited to: • Preliminary design/s; • Options analysis; • Safety in design; • Risk management; • Maintenance minimisation and access strategies; • Community consultation (as required); • And so on.	M	M	C	A	A
Be involved & coordinated with relevant road infrastructure design disciplines to ensure integrated design outcomes for all visible areas and components of the road corridor inclusive of but not limited to – • Landscape and revegetation treatments; • Structures and their urban design finish / treatment; • Pedestrian and cyclist facilities; • Drainage devices; • Lighting including feature lighting and lighting to pedestrian and cyclist facilities; • Acoustic control (noise mounds and barriers); • Road furniture and fencing; • CCTV and other ITS infrastructure; • Signs and gantries; and	M	M	C	A	M

CP - Concept phase **DP** - Design development phase **IP** - Implementation phase **FP** - Finalisation phase	**PROJECT MANAGEMENT PHASES**				
	CP & DP			**DP & IP**	**IP & FP**
• Maintenance access. Involvement is to continue through implementation and finalisation phases to respond to changes initiated by other design disciplines or emergent constraints.					
Be coordinated with key stakeholder (local government authorities, PUP for example) requirements, including outcomes of community consultation processes.	A	M	C	A	
Be coordinated with and complementary of Environmental Management plans, systems & processes.	A	M	C	A	M
Be coordinated with clearing and grubbing operations to ensure retention of protected vegetation and capture of site won organic mulch for reuse on project works.	A	M	C	A	M
Be coordinated with earthworks to ensure effective planting media management of subgrade material and site won soils for reuse on project works.	A	M	C	A	M
Be coordinated with and complementary to erosion, sedimentation and water quality infrastructure.	A	M	C	A	M
Be coordinated with nurseries and other landscape industry suppliers to ensure availability of specified plants and products.	A	M	C	A	M
DESIGN - CONTEXT					
Minimise environmental disturbance and incorporate mitigation measures, with particular attention to environmentally sensitive areas and areas of high ecological, amenity and/or cultural value.	M	M	C	A	
Be responsive to, complementary of and in scale with the existing character of the natural and built environments through which the road corridor travels.	M	M	C	A	
Be developed in consideration of and integrated with adjoining sections of road corridor and interfaces with local roads.	M	M	C	A	
Create an identifiable character for the project, and contribute to the overall design integration of road infrastructure.	M	M	C	A	
Create feature gateway treatments at key interchanges and other junctions and linkages to suburban areas.	M	M	C	A	
Manage views and visual amenity from, within and to the road corridor through retention and enhancement of positive views (high visual value) & mitigation of negative views (low visual value).	M	M	C	A	
Match the existing spatial sequence of the landscape and remnant vegetation communities along the road corridor, so as to integrate with and reinforce local vegetation patterns and enhance local landscape character.	M	M	C	A	
Provide an attractive well vegetated road corridor with plantings appropriate for the function and visual significance of the project.	M	M	C	A	
Prioritise use of native species, particularly locally occurring species and remnant vegetation community types (RE types) endemic to the area to; Notwithstanding this, plant species selection must also prioritise species suited and viable for the growing conditions presented by the situation to which they are applied and generally tolerant of low water conditions typical of road environment. **Note:** exotic species may only be used in highly urbanised environments where they may be used to complement existing, visually prominent specimens present locally.	M	M	C	A	
Retain and enhance connectivity of local community, recreational and business centres, through improved amenity, access and visibility throughout the project.	M	M	C	A	
Integrate new pedestrian and cyclist facilities within existing local and regional networks.	M	M	C	A	
Landscape and urban design treatments shall be easily recognised as belonging to a suite, or group of unified treatments that utilise a consistent palette of plant species, construction materials, and urban design treatments and detailing (that is, colours, textures, patterns & finishes) that is consistently applied along the length of the road corridor; the palette is to reflect ambient conditions, local materials and character.	M	M	C	A	
Provide treatments that are integrated respective to each other and the surrounding natural and built environment.					

CP - Concept phase **DP** - Design development phase **IP** - Implementation phase **FP** - Finalisation phase	**PROJECT MANAGEMENT PHASES**				
	CP & DP			**DP & IP**	**IP & FP**
DESIGN - FUNCTIONALITY					
Be fully coordinated and responsive to road safety requirements inclusive of but not limited to: • Clearzone and sight distance requirements; • Offsets / clearances to structures, services, PUP infrastructure; • Headlight glare & driver distraction; • CPTED; • CCTV sightlines; • Limited access (fencing); and • Maintenance and inspection operations.	M	M	C	A	
Comply with the requirements of: • TMR Road Planning and Design Manual. • TMR Manuals, Specifications and Standard Drawings. • relevant Authorities, including local councils; and • Australian Standards and legislative requirements.	M	M	C	A	
Incorporate current best practice design methodology in relevant design field (for example, water sensitive urban design, ecologically sustainable design and so on).	M	M	C	A	
Landscape treatments are to cover all degraded and disturbed areas (excludes hardstand areas and structures) within the Project footprint.	M	M	C	A	
Promote self sustaining landscape treatments which: • contribute to the overall reduction of 'whole of life' inputs for the Project Works; • require no or minimal ongoing maintenance; and • establish readily in the changed / disturbed conditions.	M	M	C	A	
Promote landscape treatments and structural design which function to enhance ecological value of the road corridor including: • water quality of drainage and sediment control devices (marginal aquatic planting) • fauna habitat and bio-flow corridors (inclusive of culverts, bridge underpasses and fencing); • soil retention and bank stabilisation; • weed management; and • biodiversity.	M	M	C	A	
Prioritise no/low maintenance outcomes to minimise maintenance operations generally and mitigate requirement for traffic control to conduct safe maintenance operations.	M	M	C	A	
Support maintenance minimisation objectives and operations by ensuring: • earthworks batters not exceed a maximum 1:2 gradient (1:3 or flatter is preferred) where typical vegetation treatment (containerised stock, hydromulch) is used as primary stabilisation measure; • gradients greater than 1:2 (V:H) alternative revegetation or hardscape stabilisation treatment options must be provided; and • grass and lawn treatments areas requiring ongoing mowing maintenance not exceed maximum 1:4 gradient.	M	M	C	A	
Integrate maintenance access and operational requirements within landscape design, including sufficient vegetation setbacks from access ways, fencing and structures to ensure unimpeded access for vehicles and personnel.	M	M	C	A	
Prioritise use and effective management (amelioration, weed seed control, stockpiling and so on) of site won soils for reuse planting media.	M	M	C	A	
Prioritise planting in lieu of grassed / turfed treatments to minimise ongoing mowing / slashing maintenance.	M	M	C	A	
Provide alternative hard capped treatments in lieu of planting treatments in following situations: • to road side areas < 1.5m wide; • medians <3m wide;	M	M	C	A	

CP - Concept phase **DP** - Design development phase **IP** - Implementation phase **FP** - Finalisation phase	**PROJECT MANAGEMENT PHASES**				
	CP & DP			**DP & IP**	**IP & FP**
• pedestrian areas where area between paths and adjacent hard edges / structures is <1m wide; and • bridge undercrofts.					
Provide planting design incorporating suitable mix of types (trees, shrubs, groundcovers and so on) species selection and densities which promotes full area coverage at maturity to assist in weed control, earthworks stabilisation and maintenance minimisation.	M	M	C	A	
Prioritise planting design installed directly behind concrete and w-beam safety barriers inclusive of species types that at maturity will be visible a minimum height of 500mm above top level of barrier, where sight distance constraints permit.	M	M	C	A	
Provide vegetative screening treatments along the interface with retaining and noise walls and areas of negative visual value adjacent the road corridor.	M	M	C	A	
Structures design, placement, arrangement and treatment / finishing must generally: • be simple, refined and without unnecessary embellishment; • enhance the physical, functional, safety and aesthetic aspects of the structure, in lieu of being merely ornamental; • aim to minimise road user distraction and visual intrusion upon the landscape, presenting as visually recessive; • promote an uncluttered road environment; • be painted finish only where colour finish is required; and • colours are to match the Colorbond range of colours to assist in anti-graffiti management.	M	M	C	A	
More intensive urban design treatment of structures should be limited to high visibility and low speed environment sections of the project only where viewer attention may be greater; for example at interchanges, junctions, bridge underpasses and extensive sections of retaining and noise walls that cannot be effectively screened with vegetation.	M	M	C	A	
Adopt innovative approaches where more intensive urban design is applied such as: • architectural design and detailing; • creating visual interest through varied use of construction materials; • incorporation of raised and recessed patterns and images within construction formwork; • use of visually distinctive, varied textured and colour treatments; • incorporation of sculptural features and forms within structures; and • consideration of night time presence (lighting effects)	M	M	C	A	
Integrate all non-structural items (including but not limited to mechanical, electrical, surveillance, signal and monitoring plant and equipment, services and other utilities components) within associated structures and road furniture to make them visually recessive without compromise to functional and maintenance requirements.	M	M	C	A	
Integrate anti-graffiti management strategies within the design and urban design treatment / finish of structural elements with consideration given to: • applied exterior quality acrylic paint as a sacrificial coating for all structures to support current TMR graffiti management strategy which is to reactively paint over affected areas with reparative, paint coatings; • proprietary brand anti-graffiti paint coatings may be used on bridge structures only Note: it is permissible to apply suitable anti-graffiti coatings over initial colour paint coat if required for the urban design treatment of bridge structures; and • deeply and widely ribbed recessing or highly textured finishes to disrupt plain surface areas and render less attractive to vandals.	M	M	C	A	
Coordinate security fencing, fauna fencing and noise barrier design to provide effective access exclusion.	M	M	C	A	

CP - Concept phase **DP** - Design development phase **IP** - Implementation phase **FP** - Finalisation phase	**PROJECT MANAGEMENT PHASES**				
	CP & DP			**DP & IP**	**IP & FP**
DELIVERABLES – General Requirements					
Content of all landscape and urban design documentation is to be tailored to the intended audience, for example: • Public exhibition or community consultation; • Peer review by landscape architecture and urban design team; • Peer review by engineers within the Department; • Construction personnel; and • Maintenance personnel.	M	M	C	A	
Drawings are to be prepared: • in accordance with the Department's Drafting and Design Presentation Manual; • generated using the Department's current AutoCAD Customisation; • demonstrating integration with surveyed site conditions and other road design disciplinary drawings through clear incorporation of XREF (x-referenced) drawings; • presented equivalent in size, scale, sheet layout and presentation detail to the other design discipline drawings; notwithstanding this requirement, the absolute min. scale (@A3 sheet size) for site analysis and concept drawings shall be 1:4000, with a minimum of 1:1000 for detailed construction plans and min. 1:200 for cross sections; • in an A3 design package generally, supplemented by larger drawings as necessary (A3 reduced copies must also be provided); • including general construction notes and detailing as necessary to assist the constructor with interpreting the design intent, relationship to key site characteristics and compliance with TMR standards.	M	M	C	A	
Construction Plans (in accordance with MRTS16 specification suite) are to be provided at relevant project stages. Required plans include but are not limited to: • planting media management plan; • vegetation management plan; • plant and seeding supply plan; • weed and pest management plan; and • landscape maintenance manual.	M	M	C	A	A
Cost Estimations *are to* prepared in accordance with the Department's cost estimating system for projects - WMS (Works Management System);	M	M	C	A	
DELIVERABLES – Concept Phase					
Provide ***Preliminary Drawings and Support Documents*** which: • demonstrate the analysis site characteristics, constraints and opportunities; • identifies landscape and urban design treatments for all Project areas and structures; • demonstrates compliance with the requirements TMR standards, including safety criteria (clear zone, sight visibility and so); • indicates proposed environmental mitigation and rehabilitation measures; • includes plant schedule / palette detailing proposed species, sizes and densities; • includes schedule of proposed urban design treatments / finishes; • indicates proposed full site maintenance access strategy; • includes sections and preliminary construction details as necessary to demonstrate specific treatments; and • includes initial specification annexures.	M	M	C	A	A
Provide a ***Preliminary Design Report*** (if required by project manager) which: • includes a brief landscape and visual assessment; • demonstrates the analysis of site characteristics, constraints and opportunities; • provides the design rationale applied to the preliminary design package; • identify any restraints, limitations or modifications to Departmental requirements and the rationale behind modifications;	C	C	C	C	

CP - Concept phase **DP** - Design development phase **IP** - Implementation phase **FP** - Finalisation phase	**PROJECT MANAGEMENT PHASES**				
	CP & DP			**DP & IP**	**IP & FP**
• provide rationalisation to any change in requirements supported by an alternate approach and/or treatment; and • demonstrate constructability and incorporation of maintenance minimisation measures.					
Provide ***Preliminary Construction Plans*** to indentifying key issues (risks, constraints, opportunities and so on) and proposed practices, indicating how plan requirements will be addressed progressively throughout each project phase.	M	M	C	A	A
DELIVERABLES – Design Development Phase					
Provide ***Construction Drawings and Support Documents*** documenting finalised the details of the Preliminary Drawings suitable to allow construction of landscape and urban design works	M	M	C	A	A
Provide finalised ***Construction Plans***	M	M	C	A	M
Provide finalised ***Operational Guidelines*** detailing: • schematic maintenance access plan, demonstrating access arrangements and co-ordination with landscape treatments and other road infrastructure; • for urban design, detailed element descriptions, the supplier details and spec information; • maintenance practices intent and details to achieve the outcomes represented by the maintenance drawings; • items of significance during maintenance (for example, identification of a Red Fire Ant colony); • landscape maintenance requirements including: ▪ as built landscape plans clearly showing sight lines and clear zones; ▪ successional replanting and reseeding program; ▪ weed control program; ▪ formative pruning program; ▪ protection of vegetation to be retained during maintenance activities; ▪ fertilising program; ▪ watering program; ▪ pest and disease management program; ▪ removal of non-complying vegetation management program; and ▪ integration of the re-mulching and slashing/mowing requirements. • urban design maintenance requirements including: ▪ maintenance treatments; ▪ intervention levels; ▪ anti-graffiti management; ▪ monitoring frequencies and restoration standards of typical failures such as graffiti, vandal damage, paint, deterioration and dirt/water/mineral build-up and staining and so on; and ▪ (colours and treatments used for each surface and details of at least one supplier for each treatment.	M	M	C	A	M

Table B2-2: Transport infrastructure landscape and urban design brief