



## Questions to be responded to by the firm submitting the application

Why do you think this project should receive an award? How does it demonstrate:

### Innovation, quality, and professional excellence

SMEC established an integrated team ethos with Mid West Ports Authority (MWPA), and developed an implementation plan that was centered on the MWPA objectives and stakeholder requirements. This approach enabled the team to focus on achieving professional excellence, high standards of quality management and client satisfaction, innovative solutions and the successful completion of a strategic, risk-based Asset Condition Assessment (ACA) for all of the marine-based assets at Geraldton Port. The ACA supports MWPA's proactive approach to delivering consistency across its port asset management planning, inspection and maintenance activities, enabling improved operational efficiency in a sustainable manner.

The integrated SMEC and MWPA project management team adopted a consultative and staged approach to understand the challenges, requirements and opportunities identified by MWPA's internal stakeholders in order to successfully complete the project.

MWPA's forward thinking approach, combined with SMEC's expertise in condition assessment and whole-of-life asset management, enabled the team to define and establish an asset condition and consequence rating system that was aligned with early recommendations for best practice, as defined in the Ports Australia Wharf Structures Condition Assessment Manual (WSCAM). MWPA became one of the first ports in Australia to implement the WSCAM best practice approach as a result.

MWPA's ACA served as a pilot project for the hands-on implementation of the WSCAM recommendations, enabling the SMEC and MWPA project team to provide valuable feedback regarding the onsite challenges and opportunities to Ports Australia.

The SMEC team also applied innovative tablet-based condition assessment data capture techniques to achieve high standards of consistency, quality management and data integrity. This technique was developed to integrate the MWPA asset hierarchy and codes, which ensured that all condition ratings, photographs and observations correlated in the condition assessment outputs.

The ACA will form a strong baseline for the MWPA's future asset management program, enabling the following benefits to be realised at the port:

- Advanced planning and preparation of business cases for future maintenance and upgrade programs in the context of a port-wide plan Prioritisation of works in relation to whole-of-life costs; safety, environmental and operational risk; and asset condition and implementation timescales
- Accurate short and long-term budget planning in relation to preventative maintenance
- Access to accurate data and management tools to rapidly analyse key asset information and provide this in a clear and consistent manner to MWPA's senior management team
- Implementation of a pragmatic asset visual inspection process that is proven and refined within the port environment

SMEC's strong client focus helped to exceed client expectations and ensure the achievement of key project objectives.

## FIDIC SECRETARIAT

PO Box 311, 1215 Geneva 15, Switzerland

Tel: +41 (22) 799 49 00 - Fax: +41 (22) 799 49 01 - E-mail: [fidic@fidic.org](mailto:fidic@fidic.org)



## Transparency and integrity in the management and project implementation

### Project Management

The integrated SMEC and MWPA project management team adopted a consultative and staged approach to understand the challenges, requirements and opportunities identified by internal Port Authority stakeholders at key stages throughout the project.

SMEC established and maintained transparent and proactive communications with MWPA throughout the project. SMEC's staged implementation model and project management approach encouraged best practice communication with the Client Project Manager and MWPA stakeholders. Regular and effective communication at key stages of the project enabled the integrated team to understand and manage client expectations, implementation risks and the scope of works.

SMEC identified three communication practices as key to the success of the project:

- Internal stakeholder interviews
- Staged implementation model with gateway review workshops
- Clear and efficient progress reporting with the client and project implementation team

### Internal Stakeholder Interviews

The SMEC and MWPA project managers held interviews with the internal Port Authority stakeholders within the maintenance, engineering, marine, commercial and operational teams during the first stage of the project. These interviews enabled the integrated team to:

- Discuss, listen to and understand existing team challenges, specific project expectations, opportunities for improving and enhancing existing asset management procedures
- Identify key project risks and management solutions
- Understand existing asset management practices
- Collate valuable anecdotal data and identify other key data sources

Integrated team interviews were used to:

- Define and refine project implementation methods and outputs to successfully meet end user requirements
- Establish early and positive relationships with Port Authority stakeholders, leading to greater levels of efficiency and collaboration during subsequent project stages
- Form the basis for managing expectations and project risk

### Staged Implementation Model and Gateway Review Workshops

SMEC facilitated Client Gateway Review Workshops with internal Port Authority stakeholders at the end of each project implementation stage. These workshops provided a collective communication forum for the maintenance, engineering, marine, commercial and operational team members to visualise, understand, discuss and provide integrated constructive feedback on:

- Staged project outputs
- Implementation expectations
- Risks and opportunities
- Proposed scope of activities for the subsequent stage



This approach ensured future risks and expectations were collectively discussed and clear management actions were identified, thereby minimising project programme and quality risks.

### Progress Reporting and Management

One of the key challenges faced by SMEC during the implementation of the project was the geographical spread of the project implementation team (who were located in five different offices across Western Australia, Queensland and New South Wales) and the regional location of the client.

To manage the project scope, risk and implementation against client expectations, SMEC undertook:

- Bespoke Client Progress Reports
- Weekly project implementation team teleconference Progress Meetings
- Robust early warning and change management procedures
- Single point of contact communications between MWPA and SMEC
- Gateway Review Workshops

SMEC developed a bespoke client progress report with MWPA, aligned with the client's internal reporting requirements, to ensure the client project manager was provided with a clear record of progress against scope, programme, contractual, financial and health and safety matters.

These reports were prepared in conjunction with a weekly teleconference meeting with the project technical leaders to discuss progress against the staged project scope and objectives, key risks and opportunities, and weekly implementation targets.

### Project Implementation

To overcome the anticipated project implementation risks, SMEC adopted a '*Discuss, Identify and Understand*' approach, which gave internal Port Authority stakeholders the opportunity to raise issues and identify challenges and opportunities at key stages of the project. This approach lent itself to transparency and integrity throughout every stage of the project.

SMEC developed a staged, risk-based, objective-driven and client-focused implementation model. The client defined project objectives and outcomes, which were then converted into a hierarchy of objectives and assigned to each implementation stage of the project (shown in Figure 1.0). This enabled SMEC to:

- Align the scope of works, activities and deliverables to each project objective
- Demonstrate how each project objective would be completed
- Provide a transparent basis for reviewing client expectations
- Confirm that target objectives had been completed at the conclusion of each stage

SMEC's objective-driven implementation model was aligned with the planned activities, deliverables, outputs and targets for each implementation stage. This provided MWPA with a more transparent understanding of the relationship activities and objectives.

The integrated team developed a robust and standardised asset hierarchy and asset condition and consequence rating system that will enable greater transparency and more rigorous quality management and consistency in future asset condition assessments. This approach will also enable MWPA to determine both spatial and temporal trends in the condition of its assets.

Figure 1.0 Staged and Client Objectives Focused Implementation Model

Stage 1 Preliminary Evaluation	Stage 2 Site Visual Inspection	Stage 3 Detailed Inspection, Testing, Analysis and Remedial Works Solutions	Stage 4 Whole of Life Costing and Economic Analysis	Stage 5 Final Report
Desktop assessment to ensure that all relevant GPA data is gathered (preliminary)	Determine physical condition of assets (preliminary)	Determine physical condition of assets	Outline estimated cost of remedial measures	All objectives completed
Provide a logical, easy to follow ranking system of the existing assets	Assess safety of asset in relation to conditions and standards (preliminary)	Assess safety of asset in relation to conditions and standards	Evaluate the increased economic life of the remedial measures against the replacement value	
Produce a rating system to clearly demonstrate priority areas	Estimate remaining life of assets (preliminary) Recommendations for a more detailed assessment	Estimate remaining life of assets Recommendations for repairs for replacement		

### Sustainability and respect for the environment

The three pillars of sustainability were integrated into the ACA implementation methodology through an assessment of the impact of failure of the assets in terms of environment, economic and social factors. These factors were used as the basis of a prioritisation tool that enabled the MWPA to plan and implement asset management solutions in a more sustainable manner.

The project implementation model carefully considered the **environmental** risks and impacts of the asset inspection and testing methods throughout the site operations. Where potential environmental risks were identified, mitigation measures were reviewed and agreed with the MWPA. The ACA also included a standardised consequence rating system that enables the port to prioritise works for individual assets based on the potential impact of failure of the asset on the environment. The carbon footprint of the project was minimised by conducting the site-based condition assessment over a condensed program, thereby minimising vehicle and inspection vessel movements. Furthermore, the majority of client and team meetings were conducted by teleconference in order to minimise travel.

The most **economic** solutions were identified by developing whole-of-life cost models, which will enable MWPA to assess long-term expenditure profiles against a variety of environmental, social, political, operational and technical factors. The ACA standardised consequence rating system also enabled the port to prioritise works for individual assets based on the potential impact of failure of the asset on the existing and future port operations.

The project implementation model carefully considered the **social, health and safety** risks and impacts of the asset inspection and testing methods throughout the site operations. Where potential social, health or safety risks were identified, mitigation measures were reviewed and agreed with the MWPA. All significant health and safety hazards observed during the inspections were immediately notified to MWPA for action.



**What services did the member firm provide to the project? Please describe briefly.**

SMEC was commissioned by Mid West Ports Authority to determine the current condition of all assets, determine the remaining economic life of the assets, identify a range of technically feasible remedial works solutions, calculate the whole of life cost for the remedial works solutions and present a recommended 30 year expenditure plan for the port asset management.

SMEC acted as the principal engineering consultant on the project, developing a strategic, risk-based Asset Condition Assessment (ACA) for all of the port's marine-based assets, including: six large wharf structures, 15 jetties and boat pens, 35 navigation aids, rock revetments, and breakwaters.

The ACA comprised:

- Development of a condition assessment framework
- Comprehensive visual condition assessments using innovative data capture techniques
- Detailed inspections, testing and materials analysis
- Technical and structural analysis
- Identification and selection of remedial works solutions
- Whole-of-life costing and economic analysis
- Development of a condition assessment database

The ACA will enable MWPA to set out a framework for delivering consistency across all future port asset management, planning, inspection and maintenance activities, in addition to enabling the MWPA to plan and prioritise asset management works for the next 30 years.

The integrated SMEC and MWPA project management team adopted a consultative and staged approach to understand challenges, requirements and opportunities identified by the internal Port Authority stakeholders at key stages throughout the project.

SMEC delivered an Asset Management Assessment that exceeded the expectations of multiple user groups within the client organisation.

SMEC has been appointed to fulfil key roles in subsequent phases of the project including:

- Detailed design of a new 75 m rock wall to protect key port infrastructure assets
- Preparation of comprehensive technical guidelines for the design, construction and maintenance of Geraldton Port marine and rock structures
- Secondment of a key SMEC team member to support MWPA with the development of prioritised business cases and scope of work for priority MWPA assets
- Tourism Vessel Mooring and Berthing Assessment
- South Pens Walkway Detailed Design
- Tug Boat Jetty Mooring Analysis and Detailed Design

*Please use additional pages as needed. Maximum 5 pages per project.*