

PRACTICAL TASK 1 – OCCASION 2

BSBPMG426

APPLY PROJECT RISK MANAGEMENT TECHNIQUES

1 Assist with risk analysis and planning

1.1A. Identify the project deliverables, objectives and resources.

Also refer to the Acoustic investigation report and the excerpt of the document provided (refer to the attached)

This report is in response to a request for a rail noise assessment of the proposed residential dwellings located at Wynnum. To facilitate the assessment, attended noise measurements were conducted in the vicinity of the site to determine noise impacts associated with the railway line. Based on the data obtained, an assessment was conducted to determine any requirements for acoustic treatments

Project Deliverables:

A site survey was conducted and identified the following:

- a) The site is currently occupied by a two-storey residential building which will be demolished for the proposed residential developments.
- b) The surrounding area consists of residential land uses.
- c) The rail line is located approximately 140 meters north of the site.

Objectives:

The project's key objectives are as follows:

The proposal is to build two, two-storey dwellings consisting of the following:

- Site area of 810m².
- Ground: Kitchen, bar/living room, laundry/bathroom and 2 bay garage.
- Level 1: Living room, 4 bedrooms all with ensuites.

Resources Required:

The successful execution of this project will necessitate the following resources:

1. Architects: Experienced architects with expertise in residential renovations and the complexities of raising and building works on existing structures.
2. Structural Engineers: Highly skilled structural engineers capable of designing and overseeing the structural aspects of raising, basement creation, and building works.
3. Construction Team: A qualified and experienced construction team specializing in renovations, basement construction, and earthworks.
4. Construction Materials: High-quality construction materials, including those suitable for basement construction and any required retaining walls.
5. Permit and Approval Specialists: A dedicated team responsible for obtaining all necessary permits and approvals from local authorities.
6. Environmental Consultants: Environmental experts to assess and address any ecological concerns arising from the earthworks and ensure sustainability compliance.

7. Earthwork Contractors: Experienced earthwork contractors capable of managing bulk excavations and the creation of the single-level basement.
1.1B. Determine potential and actual risks of project. (Refer to Project Risk Prioritisation Worksheet/Template as attached) information collated from reports
1.1C. Prioritise potential and actual risks of project, and advise project manager (Refer to Project Risk Prioritisation Worksheet/Template as attached).
1.1D. Work with relevant personnel to determine risk-analysis methods, techniques and tools to be applied. The following equipment was used to record noise levels: - Norsonic NOR140 sound level meter - Pulsar model 105 sound calibrator The Norsonic NOR140 sound level meter holds current NATA Laboratory Certification and was field calibrated before and after the monitoring period, with no significant drift from the reference signal recorded. Noise measurements were conducted approximately 14m from the nearest railway line to measure rail noise levels. The measurements were conducted in a free field position with the microphone approximately 1.5m above ground surface level. Noise measurements were conducted in “A” weightin, “Fast” response, 1/3 octaves which recorded the LAmax and SEL/LAE, (used to calculate the 24 hour LAeq). Based on the measured LAE level, calculations were conducted utilising the number of trains per day to determine the LAeq,24hr noise impacts at the proposed development.
1.1E. Work with relevant personnel when developing risk management strategies, approaches and plans according to organisational policies and procedures (Refer to Risk Management Plan Template as attached).
1.1F. Participate in a range of verbal exchanges using clear language and non-verbal features to provide relevant information. This was conducted and as below: Every care is taken with the report as it relates to interpretation of the report, discussion of Acoustic aspects and recommendations or suggestions for design and construction. Noise measurements were conducted approximately 14m from the nearest railway line to measure rail noise levels. The measurements were conducted in a free field position with the microphone approximately 1.5m above ground surface level. Noise measurements were conducted in “A” weightin, “Fast” response, 1/3 octaves which recorded the LAmax and SEL/LAE, (used to calculate the 24 hour LAeq). Based on the measured LAE level, calculations were conducted utilising the number of trains per day to determine the LAeq,24hr noise impacts at the proposed development. If differences occur, the Company will be pleased to assist with investigation or advice to resolve any problems occurring. In the event that conditions encountered on site during construction appear to vary from those expected from the information contained in the report, the Company requests that it immediately be notified. Most problems are more readily resolved when conditions are exposed than at some later stage, well after the event. Extreme events including but not limited to the results of climate change, e.g. flood levels above previously identified levels, beach scour or erosion beyond normal expectations (as identified by local authorities)

extreme rainfall events, war, espionage, sabotage may result in different conditions between time of investigation and time of construction.
1.1G. Use active listening and questioning techniques to elicit views and opinions of others. Written, one-on-one, electronic meetings, zoom, team meetings, emails, phones were used.
1.1H. Work with relevant personnel to develop and implement risk-reporting mechanisms (Refer to Risk Management Plan Template as attached).
1.1I. Take responsibility of own role in terms of its contribution to broader goals of work environment. To determine the minimum design requirements for any new accommodation buildings located in a rail transport noise corridor, the Queensland Development Code Part 4.4 may be applied if no alternative solutions are provided. In accordance with MP4.4, the noise categories are stated in Table 2. The building treatment for any future development onsite shall be determined at Building Approval stage, in general accordance with the Queensland Development Code. Alternative solution may be provided on request. It requires a thorough understanding of the project's objectives and the specific acoustic challenges posed by the proximity to the rail line. Next, one should proactively communicate and collaborate with colleagues, project stakeholders, and experts in the field to gather and share relevant information and insights. Additionally, taking ownership of one's role means adhering to best practices and industry standards related to noise mitigation and acoustic design, seeking continuous improvement, and staying updated on emerging technologies and techniques that could enhance the project's acoustic performance. Finally, individuals should be proactive in identifying and addressing any issues or setbacks, taking corrective action when necessary, and always striving to align their contributions with the overarching goal of creating a peaceful and livable residential environment near the rail line.
1.1J. Cooperate and collaborate well with others to achieve shared goals. Collaborating with the team on recommendations in our report are for design purposes only and provided on the basis that inspections are carried out to allow finalisation of opinions and recommendations contained in our report, to ensure we achieve and meet our shared goals. Firstly, open and transparent communication is paramount, where team members actively share information, concerns, and insights related to the project's acoustic aspects. Secondly, a clear division of roles and responsibilities should be established to ensure that each team member's expertise is leveraged optimally. Thirdly, fostering a culture of mutual respect and inclusivity promotes constructive discussions and the consideration of diverse perspectives when making decisions about noise mitigation and acoustic design. Regularly scheduled meetings and checkpoints help track progress and address any challenges or changes in the project's scope promptly. Lastly, a commitment to continuous improvement and a willingness to adapt strategies based on feedback and new information are essential for achieving the common goal of creating a harmonious residential environment near the rail line.
2 Review risks and execute risk-control activities
1.2A. Monitor actual and potential risks according to agreed project and risk management plans. (Refer to Risk Management Plan Template as attached).
1.2B. Identify opportunities and changing environment for project activities. Opportunities: Advancements in Acoustic Technology: There may be opportunities to leverage advancements in acoustic measurement and noise reduction technologies to better understand and mitigate noise levels near the rail line.

Environmental Regulations: Changes in local or national environmental regulations can create opportunities for compliance and may lead to new noise mitigation strategies or incentives for sustainable construction practices.

Community Engagement: Opportunities exist to engage with the local community to gather feedback and address concerns, potentially leading to more community-friendly design solutions.

Research and Development: Collaboration with universities or research institutions could yield innovative acoustic solutions or noise-reducing materials that can be applied to the project.

Changing Environment:

Railway Operations: Fluctuations in railway schedules, traffic, and the introduction of quieter rail technologies can impact noise levels, requiring ongoing monitoring and adjustment of noise mitigation measures.

Urban Development: Changes in the surrounding urban environment, such as new housing developments or commercial areas, can alter the context in which the residential construction project operates and may necessitate adjustments in noise reduction strategies.

Climate Change: Changing weather patterns, such as increased wind or temperature variations, can affect sound propagation, requiring adaptations in noise modeling and mitigation.

Public Perception: Shifts in public perception and awareness regarding noise pollution and its impact on health and well-being may necessitate stricter noise standards or increased community involvement.

Technological Advances: Emerging technologies, such as improved sound insulation materials or smart building design, may provide new tools and methods for reducing noise exposure in residential construction.

1.2C. Advise project manager of changing circumstances. (Refer to Schedule Change request template to Project Manager as attached)

Refer to the attached template for information shared with the project manager via the documented report and template information via email.

1.2D. Contribute to amending project and risk management plans and confirming plans reflect the changing environment. (Refer to Risk Response Plan template as attached)

1.2E. Contribute to reporting opportunities for risk control. (Refer to Project Change request template as attached)

1.2F. Sequence and schedule required tasks and activities in an appropriate order.

The sequencing for the following tasks and activities as below:

Phase 1: Pre-Planning and Assessment

1. Project Initiation
 - Define project objectives, scope, and goals.
 - Assemble project team and assign roles and responsibilities.
2. Regulatory Compliance Assessment
 - Research and understand local noise regulations and compliance requirements.
 - Identify any required permits or approvals.
3. Site Assessment
 - Conduct an initial noise impact assessment, considering rail line proximity and baseline noise levels.

- Identify potential noise sources and receptors within the construction site.
- 4. Community Engagement
 - Engage with the local community to gather input, address concerns, and build community support.

Phase 2: Acoustic Design and Planning

- 5. Noise Modeling and Prediction
 - Utilize noise modeling software to predict noise levels during construction and post-construction.
 - Develop noise contours and identify areas of concern.
- 6. Mitigation Strategy Development
 - Design noise mitigation measures, such as sound barriers, acoustic insulation, and construction scheduling strategies.
 - Ensure that mitigation strategies comply with local regulations.

Phase 3: Construction Implementation

- 7. Construction Planning
 - Develop a detailed construction schedule and plan that incorporates noise mitigation measures.
 - Procure necessary materials and equipment.
- 8. Construction Execution
 - Implement construction activities according to the approved schedule.
 - Enforce noise control measures and best practices on-site.

Phase 4: Monitoring and Adaptation

- 9. Noise Monitoring
 - Continuously monitor noise levels during construction to ensure compliance with established limits.
 - Adjust construction activities as needed to minimize noise impacts.
- 10. Community Feedback
 - Maintain regular communication with the local community to address concerns and provide updates.

Phase 5: Post-Construction Evaluation

- 11. Final Noise Assessment
 - Conduct a final noise assessment to compare actual noise levels with predictions.
 - Ensure that noise levels meet regulatory requirements.
- 12. Documentation and Reporting
 - Compile all project documentation, including noise assessments, mitigation measures, and compliance reports.

Phase 6: Project Closure

- 13. Project Review and Lessons Learned
 - Evaluate the project's overall success, noting areas for improvement.
 - Document lessons learned for future projects.
- 14. Final Reporting and Compliance
 - Submit final reports to regulatory authorities.
 - Obtain any necessary approvals for project closure.

Day/Date	Task/Activity	
Monday - 15/01/2024	- Project Initiation	
	- Assemble Project Team	
	- Regulatory Compliance Assessment	
Tuesday - 16/01/2024	- Site Assessment	
	- Initial Noise Impact Assessment	
Wednesday - 17/01/2024	- Community Engagement	
Thursday - 18/01/2024	- Noise Modeling and Prediction	
	- Develop Noise Mitigation Strategy	
Friday - 19/01/2024	- Construction Planning	

	- Procurement of Materials and Equipment	
Monday - 22/01/2024	- Construction Execution (Begin Construction Activities)	
Tuesday - 23/01/2024	- Construction Execution (Continued)	
1.2G. Manages communication with stakeholders according to agreed plan. (Refer to Communications Plan Template as attached)		

3 Develop contingency plan	
1.3A. Work with relevant personnel to apply corrective action on risks according to risk management plan and delegated authority. (Refer to Risk Management Plan Template as attached).	
Working with the Project Manager and Project Management team along with stakeholders	
1.3B. Apply corrective action on risks according to risk management plan and delegated authority. (Refer to Risk Management Plan Template as attached).	
1.3C. Participate in a range of verbal exchanges using clear language and non-verbal features to provide relevant information. (Refer to Communications Plan Template as attached)	
1.3D. Use active listening and questioning techniques to elicit views and opinions of others.	
This was undertaken in team meetings and on phone, via project management softwares.	
Active listening and effective questioning techniques are essential for fostering open communication and eliciting the views and opinions of various stakeholders involved. Active listening entails giving one's full attention to the speaker, understanding their perspective, and demonstrating empathy and respect for their input. Project team members should actively engage with clients, subcontractors, employees, and other stakeholders to understand their concerns, preferences, and ideas related to the project's progress, safety measures, and any potential issues. Furthermore, skillful questioning techniques, such as open-ended questions that encourage detailed responses, can be used to dig deeper into stakeholders' viewpoints. By actively listening and asking relevant questions, project leaders can create an environment where all stakeholders feel heard and valued, facilitating collaborative problem-solving and decision-making processes that enhance project outcomes and stakeholder satisfaction.	
1.3E. Work with relevant personnel to review contingency plans on an ongoing basis.	
Contingency plans are essential for addressing unforeseen challenges, risks, or changes that may arise during the course of a project. Regular reviews with key team members, subcontractors, and stakeholders allow for the assessment of the effectiveness and relevance of existing contingency plans. By continuously evaluating and updating these plans, project managers can ensure that they remain aligned with the project's evolving needs and potential risks. This ongoing collaboration fosters a dynamic and adaptable approach to project management, enabling the team to respond swiftly and effectively to any unexpected events, thereby minimizing disruptions and optimizing the project's chances of success.	
1.3F. Confirm tasks allocated to individuals and teams are agreed with supervisor before implementation.	
Agreeing on tasks allocated to individuals and teams with a supervisor before implementation is a fundamental practice that ensures clarity, accountability, and alignment within a project. This process typically involves a collaborative discussion where team members and their supervisor come together to establish a shared understanding of the project's goals, objectives, and priorities. By involving the supervisor in this agreement, it allows for a review of each task's relevance, feasibility, and alignment with the project's overall strategy. Furthermore, it ensures that the allocation of tasks considers team members' skills, resources, and workload, preventing overburdening or potential bottlenecks. This proactive communication and agreement process not only helps in setting realistic expectations but also fosters a sense of ownership, commitment, and accountability among team members, ultimately contributing to the project's successful execution.	
1.3G. Apply and monitor risk-contingency measures. (Refer to Risk Management Plan Template as attached) and also includes the below:	
1. Risk Identification:	
o Begin by identifying potential risks specific to excavation and residential construction. These could include geological issues, weather-related problems, unforeseen site conditions, or regulatory changes.	
2. Risk Assessment:	

○ Assess the likelihood and potential impact of each identified risk. Use a risk matrix to prioritize risks based on their severity. 3. Contingency Planning: ○ Develop a contingency plan for each high-priority risk. This plan should outline specific actions to be taken if the risk materializes. Contingency plans might include alternative excavation methods, additional resources, or schedule adjustments. 4. Risk Mitigation: ○ Implement risk mitigation strategies to reduce the likelihood or impact of identified risks. For example, you might conduct thorough site surveys, soil testing, and geotechnical studies to minimize geological risks. 5. Monitoring: ○ Establish a monitoring system to keep track of potential risks throughout the project's lifecycle. This might include regular site inspections, weather forecasts, and continuous communication with subcontractors and stakeholders. 6. Contingency Budgeting: ○ Allocate a portion of the project budget as contingency funds to cover unforeseen costs resulting from risks. The amount will depend on the project's complexity and the identified risks. 7. Schedule Contingency: ○ Build schedule contingency into the project timeline. Allow for additional time in case of delays caused by excavation issues. This will help prevent schedule overruns. 8. Communication: ○ Maintain open and transparent communication with all project stakeholders, including the client, contractors, and regulatory authorities. Ensure everyone is aware of potential risks and contingency plans. 9. Regular Reviews: ○ Hold regular project review meetings to assess the effectiveness of risk-contingency measures. Adjust the plans as needed based on the latest information and evolving project conditions. 10. Documentation: ○ Keep detailed records of all risk assessments, contingency plans, and any actions taken to mitigate or address risks. This documentation will be crucial if claims or disputes arise. 11. Insurance: ○ Consider appropriate insurance coverage, such as construction liability insurance, to protect against unforeseen events that may not be fully mitigated by contingency measures. 12. Regulatory Compliance: ○ Ensure that all excavation and construction activities comply with local regulations and permits. Stay updated on any changes in regulations that may affect the project. 13. Emergency Response Plan: ○ Develop an emergency response plan that outlines the steps to be taken in the event of a major incident or accident during excavation or construction. 14. Environmental Protection: ○ Implement measures to protect the environment during excavation, such as erosion control and proper disposal of hazardous materials. 15. Quality Control: ○ Maintain stringent quality control measures to ensure that work is done correctly the first time, reducing the risk of costly rework. 16. Regular Reporting: ○ Provide regular progress reports to the client and stakeholders, including updates on risk status, contingency usage, and any changes to the project plan.	<tr> <th colspan="2" data-bbox="193 1753 1412 1794">4 Contribute to assessing risk management outcomes</th></tr> <tr> <td data-bbox="193 1794 1412 1883">1.4A. Contribute to ongoing review of project outcomes (Refer to Risk Response Plan Template as attached).</td><td data-bbox="193 1883 1412 2011"></td></tr> <tr> <td data-bbox="193 1883 1412 2011">1.4B. Determine and document effectiveness of risk management activities (Refer to Risk Response Plan Template as attached).</td><td data-bbox="193 2011 1412 2047"></td></tr> <tr> <td data-bbox="193 2011 1412 2047">1.4C. Seek feedback and identify risk management issues.</td><td data-bbox="193 2047 1412 2047"></td></tr>	4 Contribute to assessing risk management outcomes		1.4A. Contribute to ongoing review of project outcomes (Refer to Risk Response Plan Template as attached).		1.4B. Determine and document effectiveness of risk management activities (Refer to Risk Response Plan Template as attached).		1.4C. Seek feedback and identify risk management issues.	
4 Contribute to assessing risk management outcomes									
1.4A. Contribute to ongoing review of project outcomes (Refer to Risk Response Plan Template as attached).									
1.4B. Determine and document effectiveness of risk management activities (Refer to Risk Response Plan Template as attached).									
1.4C. Seek feedback and identify risk management issues.									

1. Feedback Gathering:

- Feedback and input sought from the following key stakeholders:
 - Project Manager: The project manager is responsible for overseeing all aspects of the project and would provide feedback on the overall risk management strategy's effectiveness.
 - Client: The client's input is essential as they have specific expectations and objectives for the project. They can provide feedback on project goals and whether they are being met.
 - Contractors and Subcontractors: Those directly involved in the construction and excavation work can provide valuable insights into on-site risks and the effectiveness of risk mitigation measures.
 - Safety Officer: The safety officer can report on safety compliance and any incidents or near misses related to excavation and construction.
 - Regulatory Authorities: Feedback from regulatory authorities can help ensure that the project is meeting all legal requirements and permits.
 - Environmental Agencies: If the project has environmental impacts, agencies overseeing environmental compliance can provide feedback on environmental protection measures.
 - Quality Control Teams: Quality control teams can offer insights into whether the work meets quality standards and whether rework has been necessary due to risks.
 - Financial Controller: The financial controller can provide feedback on budget adherence and whether contingency funds have been utilized effectively.
 - Geotechnical Engineers: Geotechnical engineers can provide feedback on soil conditions and whether their recommendations for risk mitigation have been followed.

2. Identification of Risk Management Issues:

- Stakeholders would collectively review project documentation, reports, and feedback to identify risk management issues. These may include:
 - Inadequate risk assessment or risk identification.
 - Delays or disruptions not adequately addressed by contingency plans.
 - Unforeseen risks that were not considered in the initial plan.
 - Contingency budgets or schedules not aligned with actual project needs.
 - Communication breakdowns among project stakeholders.
 - Compliance or regulatory issues not effectively managed.
 - Environmental protection measures not meeting standards.
 - Quality control problems leading to rework.

Once risk management issues are identified, an action plan should be developed to address them. This may involve revising risk assessments, updating contingency plans, improving communication, or making changes to project processes.

1.4D. Documents outcomes to identify opportunities for future improvement (Refer to Lessons Learned Documentation Template as attached).

1.4E. Report risk management issues and responses to relevant stakeholders activities (Refer to Risk Response Plan Template as attached).

1.4F. Make changes to project management techniques based on feedback received.

The changes I would make are as follows:

Introduce the residential construction project, with a focus on the acoustic assessment as this is the feedback gained. Emphasize the significance of feedback and continuous improvement in the project management.

1. Collect and Analyze Feedback:

- Gather feedback from various stakeholders, including the community, project team members, and noise experts.
- Organize feedback into specific issues, concerns, and suggestions related to acoustic noise.
- 2. Prioritize Feedback:
 - Identify the most critical issues and concerns that need immediate attention. These may include noise levels exceeding regulatory limits or significant community dissatisfaction.
- 3. Review Current Strategies:
 - Evaluate the effectiveness of the current noise mitigation strategies and project management techniques.
 - Determine which aspects of the project are not aligning with community expectations or regulatory requirements.
- 4. Identify Necessary Adjustments:
 - Based on the feedback and your review, identify the specific project management techniques that need adjustment.
 - Consider potential changes to construction scheduling, noise barriers, equipment choices, or community engagement efforts.
- 5. Consult with Experts:
 - Engage noise experts or consultants to provide recommendations for addressing acoustic concerns.
 - Collaborate with professionals who specialize in noise modeling and mitigation to develop tailored solutions.
- 6. Revise Project Plan:
 - Update the project plan to incorporate the recommended changes. This may include revising the construction schedule, allocating resources differently, or adopting new noise-reducing technologies.
- 7. Communicate Changes:
 - Communicate the planned changes to all relevant stakeholders, including the project team, regulatory authorities, and the local community.
 - Clearly explain the reasons behind the adjustments and how they address the feedback received.
- 8. Implement Adjustments:
 - Execute the revised project plan with the newly incorporated changes.
 - Ensure that all team members are aware of and aligned with the updated strategies.
- 9. Monitor Progress:
 - Continuously monitor noise levels and community sentiment after implementing the changes.
 - Compare actual results to the project's acoustic goals and regulatory requirements.
- 10. Regular Reporting:
 - Provide regular updates to stakeholders on the progress of noise reduction efforts and project management changes.
 - Be transparent about any challenges encountered and how they are being addressed.
- 11. Continuous Improvement:
 - Maintain an ongoing process of feedback collection and adjustment throughout the project's lifecycle.
 - Be receptive to new information and emerging technologies that could further enhance noise mitigation efforts.
- 12. Document and Share Successes:
 - Celebrate and communicate successes related to noise reduction and community satisfaction to build trust and support.