



APPLICATION FORM FOR A RESOURCE CONSENT

PLEASE FILL IN ALL THE FIELDS

Application details

I/We

(must be the FULL name(s) of an individual or an entity registered with the New Zealand Companies Office. Family Trust names and unofficial trading names are not acceptable: in those situations, use the trustee(s) and director(s) names instead) hereby apply for:

☒ Land Use Consent ☐ Subdivision Consent

I opt out of the fast-track consent process: ☐ Yes ☐ No

(only applies to controlled activities under the district plan, where an electronic address for service is provided)

Brief description of the proposed activity:

Land use consent for non-compliance with construction noise standard for the construction of the tepoti Building at 15 Dowling Street, Dunedin.

Have you applied for a Building Consent? ☐ Yes, Building Consent Number ABA ☐ No

Site location/description

I am/We are the: (☒ owner, ☐ occupier, ☐ lessee, ☐ prospective purchaser etc) of the site (tick one)

Street address of site:

Legal description:

Certificate of Title:

Contact details

Name: (☐ applicant ☒ agent (tick one))

Address:

Postcode:

Phone (daytime):

Email:

Chosen contact method (this will be the first point of contact for all communications for this application)

I wish the following to be used as the address for service (tick one): ☒ Email ☐ Post ☐ Other:

Ownership of the site

Who is the current owner of the site?

If the applicant is not the site owner, please provide the site owner's contact details:

Address:

Postcode:

Phone (daytime):

Email:

Planning Application Fees Payment Details (Who are we invoicing)

THIS FORM MUST BE COMPLETED FOR ALL PLANNING APPLICATIONS THAT ATTRACT A FEE. ALL FIELDS ARE MANDATORY.

This information is required to assist us to process resource consent invoices and refunds at lodgement and the end of the process. If you have any queries about completing this form, please email planning@dcc.govt.nz

Deposit Payment Payee Details:

Full Name of Deposit Payee (Person or Company): Dowling Street JV GP Limited C/- Dean Christie

Mailing Address of Deposit Payee (please provide PO Box number where available): 15 Show Place, Addington

Christchurch 9141

Email Address of Deposit Payee: dean.christie@ngaitahu.iwi.nz

Daytime contact phone number:

Important Note: The Payee will automatically be invoiced for the deposit and/or any additional costs. Should a portion of the deposit be unspent, it will be refunded to the payee.

Fees

Council recovers all actual and reasonable costs of processing your application. Most applications require a deposit and costs above this deposit will be recovered. A current fees schedule is available on www.dunedin.govt.nz or from Planning staff. Planning staff also have information on the actual cost of applications that have been processed. This can also be viewed on the Council website.

Development contributions

Your application may also be required to pay development contributions under the Council's Development Contributions Policy. For more information please ring 477 4000 and ask to speak to the Development Contributions Officer, or email development.contributions@dcc.govt.nz.

Occupation of the site

Please list the full name and address of each occupier of the site:

See attached AEE

Monitoring of your Resource Consent

To assist with setting a date for monitoring, please estimate the date of completion of the work for which Resource Consent is required. Your Resource Consent may be monitored for compliance with any conditions at the completion of the work. (If you do not specify an estimated time for completion, your Resource Consent, if granted, may be monitored three years from the decision date).

(month and year)

Monitoring is an additional cost over and above consent processing. You may be charged at the time of the consent being issued or at the time monitoring occurs. Please refer to City Planning's Schedule of Fees for the current monitoring fee.

Detailed description of proposed activity

Please describe the proposed activity for the site, giving as much detail as possible. Where relevant, discuss the bulk and location of buildings, parking provision, traffic movements, manoeuvring, noise generation, signage, hours of operation, number of people on-site, number of visitors etc. Please provide proposed site plans and elevations.

See attached AEE

Description of site and existing activity

Please describe the existing site, its size, location, orientation and slope. Describe the current usage and type of activity being carried out on the site. Where relevant, discuss the bulk and location of buildings, parking provision, traffic movements, manoeuvring, noise generation, signage, hours of operation, number of people on-site, number of visitors etc. Please also provide plans of the existing site and buildings. Photographs may help.

See attached AEE

(Attach separate sheets if necessary)

District plan zoning

What is the District Plan zoning of the site? CBD Zone

Are there any overlaying District Plan requirements that apply to the site e.g. in a Landscape Management Area, in a Townscape or Heritage Precinct, Scheduled Buildings on-site etc? If unsure, please check with City Planning staff.

See attached AEE

Breaches of district plan rules

Please detail the rules that will be breached by the proposed activity on the site (if any). Also detail the degree of those breaches. In most circumstances, the only rules you need to consider are the rules from the zone in which your proposal is located. However, you need to remember to consider not just the Zone rules but also the Special Provisions rules that apply to the activity. If unsure, please check with City Planning staff or the Council website.

See attached AEE

Affected persons' approvals

I/We have obtained the written approval of the following people/organisations and they have signed the plans of the proposal:

Name:

Address:

Name:

Address:

Please note: You must submit the completed written approval form(s), and any plans signed by affected persons, with this application, unless it is a fully notified application in which case affected persons' approvals need not be provided with the application. If a written approval is required, but not obtained from an affected person, it is likely that the application will be fully notified or limited notified.

Assessment of Effects on Environment (AEE)

In this section you need to consider what effects your proposal will have on the environment. You should discuss all actual and potential effects on the environment arising from this proposal. The amount of detail provided must reflect the nature and scale of the development and its likely effect. i.e. small effect equals small assessment.

You can refer to the Council's relevant checklist and brochure on preparing this assessment. If needed there is the Ministry for the Environment's publication "A Guide to Preparing a Basic Assessment of Environmental Effects" available on www.mfe.govt.nz. Schedule 4 of the Resource Management Act 1991(RMA) provides some guidance as to what to include.

See attached AEE

(Attach separate sheets if necessary)

The following additional Resource Consents from the Otago Regional Council are required and have been applied for: ☐ Yes ☐ No
☐ Water Permit ☐ Discharge Permit ☐ Coastal Permit ☐ Land Use Consent for certain uses of lake beds and rivers ☐ Not applicable

Assessment of Objectives and Policies

In this Section you need to consider and assess how your application proposal aligns with the relevant objectives and policies in the District Plan relating to your activity. If your proposal is a discretionary or non-complying activity under the District Plan more attention to the assessment will be necessary as the objectives and policies of the District Plan may not always be in support of the proposed activity.

See attached AEE

Declaration

I certify that, to the best of my knowledge and belief, the information given in this application is true and correct.

I accept that I have a legal obligation to comply with any conditions imposed on the Resource Consent should this application be approved.

Subject to my/our rights under section 357B and 358 of the RMA to object to any costs, I agree to pay all the fees and charges levied by the Dunedin City Council for processing this application, including a further account if the cost of processing the application exceeds the deposit paid.

Signature of: ☐ Applicant ☒ Agent (tick one):



Date: 1/03/2022

Privacy – Local Government Official Information and Meetings Act 1987

You should be aware that this document becomes a public record once submitted. Under the above Act, anyone can request to see copies of applications lodged with the Council. The Council is obliged to make available the information requested unless there are grounds under the above Act that justify withholding it. While you may request that it be withheld, the Council will make a decision following consultation with you. If the Council decides to withhold an application, or part of it, that decision can be reviewed by the Office of the Ombudsmen.

Please advise if you consider it necessary to withhold your application, or parts of it, from any persons (including the media) to (tick those that apply):

- ☐ Avoid unreasonably prejudicing your commercial position
- ☐ Protect information you have supplied to Council in confidence
- ☐ Avoid serious offence to tikanga Māori or disclosing location of waahi tapu

What happens when further information is required?

If an application is not in the required form, or does not include adequate information, the Council may reject the application, pursuant to section 88 of the RMA. In addition (section 92 RMA) the Council can request further information from an applicant at any stage through the process where it may help to a better understanding of the nature of the activity, the effects it may have on the environment, or the ways in which adverse effects may be mitigated. The more complete the information provided with the application, the less costly and more quickly a decision will be reached.

Further assistance

Please discuss your proposal with us if you require any further help with preparing your application. The Council does provide pre-application meetings without charge to assist in understanding the issues associated with your proposal and completing your application. This service is there to help you.

Please note that we are able to provide you with planning information but we cannot prepare the application for you. You may need to discuss your application with an independent planning consultant if you need further planning advice.

City Planning Staff can be contacted as follows:

IN WRITING: Dunedin City Council, PO Box 5045, Dunedin 9054

IN PERSON: Customer Services Centre, Ground Floor, Civic Centre, 50 The Octagon

BY PHONE: (03) 477 4000

BY EMAIL: planning@dcc.govt.nz

There is also information on our website at www.dunedin.govt.nz

Information requirements

- ☐ Completed and Signed Application Form
- ☐ Description of Activity and Assessment of Effects
- ☐ Site Plan, Floor Plan and Elevations (where relevant)
- ☐ Written Approvals
- ☐ Payee details
- ☐ Application fee (cash, eftpos, direct credit or credit card (surcharge may apply))
- ☐ Certificate of Title (less than 3 months old) including any relevant restrictions (such as consent notices, covenants, encumbrances, building line restrictions)
- ☐ Forms and plans and any other relevant documentation signed and dated by Affected Persons

In addition, subdivision applications also need the following information:

- ☐ Number of existing lots
- ☐ Number of proposed lots
- ☐ Total area of subdivision
- ☐ The position of all new boundaries

In order to ensure your application is not rejected or delayed through requests for further information, please make sure you have included all of the necessary information. A full list of the information required for resource consent applications is in the Information Requirements Section of the District Plan.

OFFICE USE ONLY

Has the application been completed appropriately (including necessary information)? ☐ Yes ☐ No

Application: ☐ Received ☐ Rejected

Received by: ☐ Counter ☐ Post ☐ Courier ☐ Other:

Comments:

(Include reasons for rejection and/or notes to handling officer)

Planning Officer:

Date:



LAND. PEOPLE. WATER.

NGĀI TAHU Property



**He Kaupare. He Manaaki.
He Whakaora.**
prevention. care. recovery.

**Resource Consent Application for Construction
Noise, 15 Dowling Street, Dunedin**

Dowling Street JV GP Limited

Resource Consent Application and Assessment
of Environmental Effects

March 2022

REPORT INFORMATION AND QUALITY CONTROL

Prepared for:	James Jackson	
	Ngai Tahu Property Limited	
Author:	James Nicol Planning and Policy Consultant	
Reviewer:	Lisa Thorne Principal Planning and Policy Consultant, Dunedin Manager	
Approved for Release:	Lisa Thorne Principal Planning and Policy Consultant	
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CONTENTS

Page

1	APPLICANT AND PROPERTY DETAILS.....	III
2	INFORMATION REQUIREMENTS	1
2.1	General	1
3	THE PROPOSAL	1
3.1	Noise Receivers.....	1
3.2	Construction Noise Sources.....	1
3.3	Noise Mitigation	4
3.4	Noise Monitoring and Reporting.....	5
4	BACKGROUND	5
4.1	Consent History	5
4.2	Consultation	6
4.3	Any other activities that are part of the proposal.....	6
4.4	Other consent requirements.....	6
5	THE SITE & SURROUNDING ENVIRONMENT	7
5.1	Surrounding Environment	7
6	REASONS FOR THE APPLICATION	7
6.1	Proposed Dunedin Second Generation District Plan.....	7
6.2	Overall Status of the Application.....	8
7	SCHEDULE 4 RMA – ASSESSMENT OF ENVIRONMENTAL EFFECTS.....	8
7.1	Introduction.....	8
7.2	Noise Effects	9
7.3	Cumulative Noise Effects.....	14
7.4	Positive Effects	14
7.5	Environmental Effects Assessment Summary	15
8	STATUTORY ASSESSMENT	15
8.1	Section 104(1)(a) of the Act.....	15
8.2	Section 104(1)(ab) of the Act	15
8.3	Section 104(1)(b) of the Act	15
8.4	Weighting	17
8.5	Section 104(1)(b) Summary.....	17
8.6	Section 104(1)(c) of the Act.....	17
9	OTHER RELEVANT SECTIONS OF THE ACT	17
9.1	Section 104D Test for Non-Complying Activities.....	17
9.2	Section 16 – Duty to Avoid Unreasonable Noise.....	18
9.3	Section 108 – Recommended Conditions of Consent	18
10	NOTIFICATION ASSESSMENT – SECTIONS 95A TO 95G OF THE ACT.....	19
10.1	Public Notification Assessment	19
10.2	Limited Notification Assessment.....	22
10.3	Notification Assessment Conclusion	26
11	PART 2 ASSESSMENT.....	26
12	CONCLUSION	27

List of Tables

Table 1: Details for construction activities and sound powers from ground works adjoining 9 Dowling Street. 2	
Table 2: Details on likely construction activities and sound powers from above ground works adjoining Robson Alley..... 4	4
Table 3: External noise and internal noise received and examples of impacts upon building occupants. Information sourced from Construction Noise Assessment, Acoustic Engineering Services. 10	10
Table 4: Expected internal noise levels from ground works at 15 Dowling Street. Information sourced from Construction Noise Assessment, Acoustic Engineering Services. 11	11
Table 5: Expected internal noise levels from above ground works at 15 Dowling Street. Information sourced from Construction Noise Assessment, Acoustic Engineering Services. 12	12

List of Figures

Figure 1: Locality plan of the subject site at 15 Dowling Street, Dunedin..... iv	iv
Figure 2: Adjacent land to the subject site at 15 Dowling Street, Dunedin..... 21	21
Figure 3: Parts of building at 9 Dowling Street facing the subject site. 25	25

List of Appendices

Appendix A Certificates of Title	
Appendix B Construction Noise Assessment by Acoustic Engineering Services	
Appendix C Site Plans and Noise Recievers	
Appendix D Construction Management Plan by Smith Crane and Construction	
Appendix E Noise and Vibration Management Plan by Southern Geophysical	
Appendix F LUC-2021-158/B Staging Plan	

1 APPLICANT AND PROPERTY DETAILS

Site Address:	15 Dowling Street, Dunedin
Applicant's Name:	Dowling Street JV GP Limited
Address for Service:	4Sight Consulting Ltd Level 1, The Chamberson 77 Stuart Street Dunedin 9016 Attention: James Nicol
Address for Fees:	Dowling Street JV GP Limited 15 Show Place Christchurch, Canterbury 8141 By Email: James.Jackson@ngaitahu.iwi.nz
Owner:	Dowling Street JV GP Limited
Legal Description:	Lot 1 Deposited Plan 517797 (Record of Title 810090)
Site Area:	3663m ²
Plan Name:	Proposed Dunedin City Second Generation District Plan
Plan Zone:	Central Business District Zone
Plan Designations, Limitations, or Overlays:	Moray Place – Dowling Street Commercial Heritage Precinct, Archaeological Alert Layer, and Secondary Pedestrian Frontage Mapped Area
Brief Description of Proposal:	Resource consent for non-compliance with construction noise standard for the construction of the Ōtepoti Building at 15 Dowling Street, Dunedin.
Overall activity status of resource consent:	Non-complying

Locality Plan:



Figure 1: Locality plan of the subject site at 15 Dowling Street, Dunedin.

2 INFORMATION REQUIREMENTS

2.1 General

This application has been prepared in accordance with the requirements of Schedule 4 of the Resource Management Act 1991 (“the Act”).

3 THE PROPOSAL

Land use consent is sought for non-compliances with the construction noise standards within the Proposed Dunedin Second Generation District Plan (the Proposed 2GP) for the construction of the Ōtepoti building at 15 Dowling Street, Dunedin. This application relates to undertaking construction activities at 15 Dowling Street adjoining 9 Dowling Street, that will exceed the construction noise limit of 70 dB L_{Aeq} at the facades of the 9 Dowling Street building occupying the neighbouring site. A Construction Noise Assessment prepared by Acoustic Engineering Services (AES) of the proposed construction methodology has identified that a number of construction activities for the Ōtepoti building will result in construction noise levels exceeding 70 dB L_{Aeq} one metre from the façade of the adjoining building. The noise assessment is included as Appendix B to this application.

For alignment with LUC-2021-158/B, this application relates to the areas identified as Stage 3 and part of Stage 4. Further discussion on the consent history and staging has been provided in Section 4.1 below.

Once constructed, the Ōtepoti building will provide for ACC to integrate their current Dunedin based operations into a single purpose-built office building, which has been designed to accommodate up to 650 staff that are currently divided across four separate buildings.

3.1 Noise Receivers

This application seeks land use consent to exceed the permitted Proposed 2GP 70dB L_{Aeq} construction noise level one metre from the façade of the building at 9 Dowling Street. The noise receivers to which this application relates are identified as Building A in the site plan in Appendix C to this application. An indicative floor plan of Building A and table of tenants is also included within Appendix C. Within Building A, seven tenancies are identified on the floor plan being located within internal spaces that adjoin the subject site.

3.2 Construction Noise Sources

The sources of construction noise that will exceed the construction noise standards relate to two stages of construction. The first stage being the below ground site preparation works, with the second stage being the construction of the above ground structure of the Ōtepoti building. These construction activities relate to Stages 3 and 4 as identified by LUC-2021-158/B. A further discussion of the consent history is provided in Section 4.1 below.

The noise sources identified below will result in construction noise between the hours of 7.30am to 6.00pm only. No construction activities/noise sources exceeding 70 dB L_{Aeq} will operate on the site outside of these hours.

It is important to note that the noise levels exceeding 70 dB L_{Aeq} identified below will not be constant. During the times estimated durations specified below, there be periods where construction noise is present and periods where there is only permitted noise generated from the site. When considered in the context of the wider construction work for the Ōtepoti building, noise exceeding the permitted construction noise standards will be of a very short term duration.

3.2.1 Ground Works Construction Activities

A number of construction activities required for the ground works of the Ōtepoti building have been identified by AES as likely to exceed a 70dB L_{Aeq} noise level one metre from the façade of the building located at 9 Dowling Street, Dunedin. The area of the site to which these activities relate is described as Stage 3 as approved by LUC-2021-158/B, with the site plan included within Appendix C showing the location of the activities in relation to the identified receivers.

The construction activities, their estimated sound powers, duration, and affected buildings based on the noise assessment undertaken by AES are outlined in Table 1 below. The noise levels identified below are estimates of the maximum noise expected. While we expect these to be worst case estimates, ground conditions and other factors may increase noise received for small periods and conversely ground conditions and other factors may result in noise levels below what has been estimated. Where the duration of the construction activity is not stated within the AES report, these have been obtained from the Construction Management Plan (CMP) prepared by Smith Crane and Construction, the primary contractor for this phase of site works. The CMP is included as Appendix D.

Table 1: Details for construction activities and sound powers from ground works adjoining 9 Dowling Street.

Construction Activity	Estimated Maximum Noise Levels on Building Facades	Maximum Required setback to comply with 70 dB L_{Aeq} (m)	Estimated Duration
Sheet Piling ICE RF vibratory hammer with Bosch hydraulic power unit 100t tracked crawler crane	83 dB L_{Aeq}	15m	2 days
Vibratory Case Piling ICE RF vibratory hammer with Bosch hydraulic power unit	75 dB L_{Aeq}	14m	1-1.5 days

100t tracked crawler crane Bauer BG25 drilling rig			
Screw Piling Bauer BG25 drilling rig 100t tracked crawler crane Cement mixer ICE RF vibratory hammer	90 dB L _{Aeq}	14m	1-1.5 days per pile up to 18 days total
Vibratory plate compactor	96 dB L _{Aeq} 85 dB L _{Aeq} (inset building areas)	34m	5 days
13t tracked excavator	82 dB L _{Aeq}	10-12m	5 days
20t tracked excavator (earthworks)	69 dB L _{Aeq}	12m	
20t tracked excavator (site scraping)	76 dB L _{Aeq}	28m	

Of the screw piles described in Table 1 above, seven of these piles are to be installed along the site boundary. The maximum noise levels provided are for these piles, with the installation of the remaining five screw piles expected to produce noise levels at the building façade significantly lower than 90 dB L_{Aeq}.

From Table 1 above, it is noted that the 13t tracked excavator will be used in areas of the site within 10m from the site boundaries to reduce the noise level received at adjoining buildings. The estimated maximum noise levels provided for the operation of the 20t tracked excavator are based on this 10m setback from the site boundaries.

3.2.2 Above Ground Construction Activities

While a contractor has yet to be appointed and a construction methodology developed for the above ground construction of the Ōtepoti building, the construction noise assessment prepared by AES identified that it is likely that some aspects of this phase of construction will also exceed 70 dB L_{Aeq} at the identified receivers at 9 Dowling Street. Consequently, as a precautionary approach, land use consent is also sought to exceed 70 dB L_{Aeq} at identified receivers for construction activities associated with Stage 4 as approved by LUC-2021-158/B.

As no construction methodology has been developed at this stage, the construction noise assessment by AES makes assumptions about the likely construction activities for this phase of construction. As has been discussed above, the noise levels identified below are estimates of the maximum noise expected. It is generally expected that all above ground construction activities for will comply with the 70 dB L_{Aeq} standard, however there may be short periods that may exceed this standard where it is not practical to

maintain the required setbacks or noise screening. These activities, their estimated sound power, and affected buildings are identified in Table 2 below. It is noted that the likely activities and maximum durations at this time are indicative only as the main contractor and project timeline has not yet been established. For the avoidance of doubt, as a precautionary approach, resource consent for any noise exceedances during Stage 4 is sought, and mitigation to address noise exceedances during this stage is discussed in Section 3.3 below.

Table 2: Details on likely construction activities and sound powers from above ground works adjoining 9 Dowling Street.

Construction Activity	Estimated Maximum Noise Levels on Building Facades	Required setback to comply with 70 dB L _{Aeq} (m)
Concrete pumping and pouring	73-81 dB L _{Aeq}	19m
Concrete floating	80 dB L _{Aeq} (upper floors)	18m
Cranage	73 dB L _{Aeq}	10m
Envelope and internal fitout Use of power tools	80 dB L _{Aeq}	11m

3.3 Noise Mitigation

As the above noise levels at adjoining building facades will exceed 70 dB L_{Aeq}, several noise mitigation methods have already been identified to manage the noise effects from the site. For the ground works as part of Stage 3, these mitigation methods are outlined in the Noise and Vibration Management Plan (NVMP) prepared by Southern Geophysical and included as Appendix E to this application. The NVMP has been prepared in accordance with NZS6803:1999 which identifies that the best practicable options for noise mitigation should be applied. The mitigation methods are outlined on Pages 12-13 of the attached NVMP and include the use of acoustic insulation enclosures around noise sources, site hoardings, and a number of general measures that will be undertaken by the site contractor. In addition to the noise source mitigation, consultation is ongoing with the identified noise receivers within the adjacent buildings. To mitigate the impact of construction activities on noise receivers, open communication will be maintained to notify and to make practicable effort to work around times that minimise the effects on those neighbours. Further details of the consultation undertaken to date has been provided in Section 4.2 below.

In addition to the above mitigation, noise monitoring will be undertaken at points along the site boundary throughout the construction process. This will ensure that in the unlikely event that noise exceeding what is predicted is detected it can be remedied as soon as possible. The contractor will also maintain a complaints register and procedure to ensure that if any noise receivers feel that the noise generated is excessive or beyond what was expected, these complainants can be acted upon and resolved proactively.

It is anticipated that a NVMP will be prepared for the above ground construction activities, and this will be supplied to Council when it is available. The NVMP will include details about specific noise sources and the mitigation to reduce sound powers experienced by noise receivers. We anticipate that the preparation of a NVMP will be required as a condition of consent, and further detail on this condition is provided in Section 9 below.

3.4 Noise Monitoring and Reporting

To ensure that the estimated maximum noise levels are accurate, ground truthing of the predicted sound powers will be undertaken during the permitted works undertaken as part of Stage 1 (see section 4.1 below). Further noise monitoring and reporting will be undertaken in accordance with the NVMP.

4 BACKGROUND

4.1 Consent History

Land use consent LUC-2021-158 was granted in May 2021 for the Ōtepoti building. This land use consent approved the building design, earthworks, and disturbance of a contaminated site. LUC-2021-158 included a number of conditions relating to further information to be prepared and submitted prior to works being undertaken on the site. Most relevant to this application are Conditions 14 and 15. Condition 14 required that a Construction Management Plan (CMP) be approved by Council prior to any work being undertaken on the site, while Condition 15(d) required that the CMP demonstrate compliance with the construction noise standards of the Proposed 2GP.

Issues relating to the construction noise standards were identified after a contractor for the main ground works was appointed and a Noise and Vibration Management Plan (NVMP) to demonstrate compliance with construction noise standards of the Proposed 2GP. The NVMP identified that certain works within the Robson Alley area of the site and the building at 9 Dowling Street would not comply with the standards.

4.1.1 LUC-2021-158/A

An application for a change of consent conditions was subsequently approved (LUC-2021-158/A) to allow for a staged approval of the CMP to allow for permitted construction activities to occur on site while resource consent was sought for the non-complying construction activities. LUC-2021-158/A divided the site into three stages based on a minimum required setback from the adjoining buildings to achieve compliance with the construction noise standards. The stages were as follows:

- Stage 1 – Central area of the site where all ground works construction activities can comply with the construction noise standards;
- Stage 2 – Areas adjoining Robson Alley and 9 Dowling Street where ground works construction activities cannot comply with the construction noise standards and require resource consent; and
- Stage 3 – All above ground construction activities for the Ōtepoti building.

4.1.2 LUC-2021-158/B

Following further construction noise assessment, a further application for a change of consent conditions LUC-2021-158/B was subsequently approved to amend the boundaries between Stages 1 and 2 and divide Stage 2 into two separate areas. Additional noise assessment determined that construction activities were required to be setback further from the site boundaries to comply with the construction noise standards. The staging following the approval of LUC-2021-158/B is as follows and the approved staging plan has been included as Appendix F to this application.

Stage 1: Construction activities that comply with the construction noise standards of Rule 4.5.4.1 of the Proposed 2GP;

Stage 2: Construction activities that do not comply with the construction noise standards of Rule 4.5.4.1 of the Proposed 2GP adjoining Robson Alley;

Stage 3: Construction activities that do not comply with the construction noise standards of Rule 4.5.4.1 of the Proposed 2GP adjoining 9 Dowling Street;

Stage 4: All other constructions activities for the building.

This application relates to the works located in Stage 3 and Stage 4 that will result in construction noise that exceeds 70 dB L_{Aeq} at 9 Dowling Street.

4.2 Consultation

Initial consultation has been undertaken with many of the building owners and occupiers within the identified noise receivers in Appendix C. Several affected party approvals have been received based on an earlier version of information that was supplied.

The information pack has been updated and further consultation will occur based on the updated information to secure further written approvals to this application. Any affected party approval forms received will be supplied to Council when these are received. Further discussion regarding the which parties consulted is provided in the assessment of effects of persons in Section 10 below.

4.3 Any other activities that are part of the proposal

Clause 2(1)(d) of Schedule 4 of the Act requires the applicant to identify other activities that are part of their proposal. This is intended to capture things which need permission or licensing outside of the Act, for example, activities under the Building Act 2004 or the Hazardous Substances and New Organisms Act 1996.

Building consent has been obtained for the ground works at the site and a further building consent will be sought for the above ground construction.

4.4 Other consent requirements

There are other aspects relating to this proposal that require resource consent from the Dunedin City Council. Therefore, consent is concurrently being sought for the following:

A land use consent for construction noise received at the buildings adjoining Robson Alley and 8-30 Dowling Street, Dunedin.

5 THE SITE & SURROUNDING ENVIRONMENT

The site is located at 15 Dowling Street, Dunedin and is legally described as Lot 1 Deposited Plan 517797 (held in Record of Title 810090) and is approximately 3663m² in area. The site is comprised entirely of Central Business District Zoned land under the Proposed 2GP and is located within the Moray Place – Dowling Street Commercial Heritage Precinct.

The site has two legal frontages along the northern site boundary with Dowling Street and the southern site boundary with Queens Gardens. The Queens Gardens Frontage, while technically a road reserve, is not part of the current transport network. Rather, this area is currently used by the Dunedin City Council for leased car parking and does not provide for through traffic.

The frontage to Dowling Street is mapped within the Proposed 2GP as:

- A Commercial Centre Road under the Road Classification Hierarchy; and
- A Secondary Pedestrian Street Frontage.

The frontage to Queens Gardens is mapped within the Proposed 2GP as:

- A Secondary Pedestrian Street Frontage.

The northwest portion adjoining the site is subject to Right of Way and Right to Light and Air easements. This area is informally known as Robson Alley and provides back-of-house access four adjoining allotments with frontage to Princes Street. This easement and related access will be retained.

The record of title is provided in Appendix A. There are no limitations or interests listed on the title that are relevant to this application.

5.1 Surrounding Environment

The site is located within the Dunedin CBD, with a number of mixed land uses occurring on directly adjoining sites that are typical of a CBD environment. These include commercial office activities, residential activities, community education facilities, and registered health practitioners. A full list of the land uses, and their locations has been provided in Appendix C to this application. A number of similar land uses are undertaken on properties that do not directly adjoin the subject site.

6 REASONS FOR THE APPLICATION

An assessment of the proposal against the relevant statutory documents has been undertaken and the following reasons for consent are identified.

6.1 Proposed Dunedin Second Generation District Plan

Resource consents sought under the Proposed 2GP are:

Rule 4.5.4.1(b) which requires construction noise received in mixed use zones for all days of years for long duration construction activities to not exceed 70 dB L_{Aeq} between 7.30am-6.00pm. In this instance, the expected noise received by the identified noise receivers are specified in Section 3.2 above.

- In accordance with Rule 4.5.4.1(e), the construction work has been classified as a long-term duration as construction work at the site will exceed 20 weeks across the ground works and above ground works for the Ōtepoti building.

In accordance with Rule 4.5.4.1(d), the proposal requires resource consent for a **non-complying** activity as the expected noise received during construction activities will exceed 75 dB L_{Aeq} .

6.2 Overall Status of the Application

Overall, resource consent is required for a non-complying activity.

6.2.1 Non-Complying Activities - s87A and s104B

As a non-complying activity, there is no limitation in the matters that can be considered providing they are resource management related. The consent authority may grant consent with or without conditions or decline consent.

7 SCHEDULE 4 RMA – ASSESSMENT OF ENVIRONMENTAL EFFECTS

7.1 Introduction

Having reviewed the relevant plan provisions, visited the site and taking into account the matters that must be addressed by an assessment of environmental effects as outlined in Clause 7 of Schedule 4 of the Act, the following environmental effects warrant consideration as part of this application.

As this application is for a non-complying activity, relevant effects that the council can consider are unlimited. Notwithstanding the ability of council consider all effects, we consider that only noise effects are relevant.

An assessment of these effects, that corresponds with the scale and significance of the effects that the activity may have on the environment, is provided below in the remaining parts of section 7. Clause 7(2) notes that the requirement to address matters in the assessment of environmental effects is subject to the provisions of any policy statement or plan. The relevant documents have been assessed in Section 8 of this report.

7.1.1 Permitted Baseline

The permitted baseline is relevant to both the assessment under sections 95A – 95G and section 104 of the Act. Under these sections, a consent authority may disregard an adverse effect of the activity on the environment if a national environmental standard or the plan permits an activity with that effect. This is the permitted baseline. It is only the adverse effects over and above those forming a part of the baseline that are relevant when considering an application.

The purpose of the permitted baseline test is to isolate and make irrelevant, the effects of activities on the environment that are permitted by the plan. When applying the permitted baseline, such effects cannot then be taken into account when assessing the effects of a particular resource consent application. The baseline has been defined by case law as comprising the 'existing environment' and non-fanciful (credible) activities that would be permitted as of right by the plan in question.

In this case the permitted baseline relevant to this application is the construction noise limit within mixed use zones of 70 dB L_{Aeq} between 7.30am-6.00pm.

7.1.2 Receiving environment

In assessing the potential adverse effects on the environment, the receiving “environment” for effects must be considered.

The receiving environment is a mandatory consideration defined by caselaw and is the environment beyond the subject site upon which a proposed activity might have effects. This includes the future state of the environment upon which effects will occur, including:

- The environment as it might be modified by the utilisation of rights to carry out permitted activities; and

- The environment as it might be modified by implementing resource consents that have been granted at the time a particular application is considered, where it appears likely that those resource consents will be implemented.

In this case the receiving environment is as described in Section 5 of this report.

7.1.3 Other considerations

Sections 95D(d)-(e) and 104(3)(a) of the Act require that assessments must disregard:

- Trade competition, or the effects of trade competition; and

- Any effect on a person who has given written approval to this application.

Trade competition is not relevant to this application, but written approval is.

Sections 95D(e) and 104(3)(a)(ii) are relevant because we anticipate that a number of parties will provide their written approval to the application. As directed by the Act, in considering whether the application will have or is likely to have adverse effects on the environment that are more than minor, it is anticipated that any adverse effects on those persons will be disregarded.

7.2 Noise Effects

As identified in Section 3 above, the construction of the Ōtepoti building will result in periods of noise received at the facades of adjoining buildings that exceed 70 dB L_{Aeq} based on noise predictions prepared by AES. The section below provides an assessment of the likely noise effects that is informed by the construction noise assessment by AES.

7.2.1 Wider Environment

In assessing noise effects, consideration of the spatial extent of those effects must occur. Noise levels reduce with linear distance from the noise source. It is therefore possible (and has been outlined in Section 3.2 above) to identify a setback buffer around each noise source within which adverse noise effects may occur. Applying these setback buffers, noise effects are clearly restricted to the receivers within the buildings that are located within the identified setbacks. Outside of the identified setback buffers, the construction noise will comply with the 70 dB L_{Aeq} limit used by the Proposed 2GP to define an acceptable noise level within the surrounding environment. Therefore, this assessment will focus on the adverse noise effects on the identified noise receivers for this application and concludes that the adverse noise effects on the environment are no more than minor.

7.2.2 Internal Noise

AES provided examples¹ of how noise levels received at a building façade correspond to what is experienced internally. The AES examples have been summarised in Table 3 below. AES notes that the level of internal noise is highly dependent on the building structure and design, location of windows and whether these are open, and internal layout. AES further note that the effect of the internal noise levels is also dependent on the activity that is undertaken within the building, the duration and time that the noise emission occurs, and the ambient environmental noise levels experienced in the receivers location.

Table 3: External noise and internal noise received and examples of impacts upon building occupants. Information sourced from Construction Noise Assessment, Acoustic Engineering Services.

Noise at Façade	Internal Noise	Impacts on Building Occupants
71-75 dB L_{Aeq}	51-55 dB L_{Aeq}	New component to background noise Day to day activities possible with minimal disruption
76-80 dB L_{Aeq}	56-60 dB L_{Aeq}	Occupants would need to raise voices above normal speaking levels Activities that require low background noise levels would need to be undertaken in internal spaces
> 80 dB L_{Aeq}	> 60 dB L_{Aeq}	Noise at this levels disruptive to most types of work due to difficult communication Occupants would likely seek to relocate to internal spaces within the building or offsite

¹ Pages 6-7, Ground Works and Building Construction Resource Consent, ACC Development, Dunedin – Assessment of Construction Noise Effects, Acoustic Engineering Services, February 2022.

From the examples provided in Table 3, AES consider that noise at the façade of 76-80 dB L_{Aeq} , or 56-60 dB L_{Aeq} internally, is the threshold for determining that minor adverse effects² are occurring.

7.2.2.1 Predicted Internal Noise Levels

AES provided predicted maximum internal noise levels construction activities for the identified receiving buildings. The predicted noise levels will only be received in the areas of the buildings adjoining the closest facades. The predicted maximum internal noise levels for ground works have been provided in Table 4, and above ground works in Table 5. As noted by AES, the estimated maximum internal noise levels are conservative estimates only and may in fact be lower than what is predicted due to the building structure and design.

Table 4: Expected internal noise levels from ground works at 15 Dowling Street. Information sourced from Construction Noise Assessment, Acoustic Engineering Services.

Construction Activity	Estimated Maximum Internal Noise	Affected Tenancies in Building A	Estimated Duration of Internal Noise for Receiver
Sheet Piling ICE RF vibratory hammer with Bosch hydraulic power unit 100t tracked crawler crane	74-77 dB L_{Aeq}	0.7 and 1.2	1 day
	<60 dB L_{Aeq}	0.7 and 1.2	1 day
Screw Piling Bauer BG25 drilling rig 100t tracked crawler crane Cement mixer	76 dB L_{Aeq}	0.7 and 1.2	4 days
		0.5, 0.6, and 2.1	2 days
		2.2	3 days
Screw Piling ICE RF vibratory hammer	80 dB L_{Aeq}	0.5, 0.6, 1.2, 2.1, and 2.2	See note below
Vibratory Case Piling ICE RF vibratory hammer with Bosch hydraulic power unit 100t tracked crawler crane Bauer BG25 drilling rig	57 dB L_{Aeq}	0.5, 2.2, and 2.3	1-1.5 days per pile 3 days

² Para. 3, Page 7, Ground Works and Building Construction Resource Consent, ACC Development, Dunedin – Assessment of Construction Noise Effects, Acoustic Engineering Services, February 2022

Vibratory plate compactor	76 dB L _{Aeq}	0.5, 0.6, 1.2, 2.1, 2.2, and 2.3	See note below
13t tracked excavator	62 dB L _{Aeq}	0.5, 0.6, 1.2, 2.1, 2.2, and 2.3	-
20t tracked excavator (operating 10m away from site boundaries)	56 dB L _{Aeq}	0.5, 0.6, 1.2, 2.1, 2.2, and 2.3	-

The vibratory hammer for the screw pile installation may be used to remove the screw pile casing. The predicted internal noise levels will only be experienced for a very limited duration during the installation of each screw pile.

The vibratory plate compactor is a moving noise source and the internal noise levels are a snapshot as the compactor makes a complete pass. The impact of this noise source will be dependent on the length of time that the plate compactor will be operating directly outside of each receiver.

From the expected internal noise levels provided by AES for the activities undertaken within the identified buildings, it is considered that some of the construction activities will therefore have a minor effect on noise receivers within the identified affected buildings for the ground works identified in Table 4. In determining the level of effects, regard has also been had to the likely duration of noise levels and this is discussed further below.

Table 5: Expected internal noise levels from above ground works at 15 Dowling Street. Information sourced from Construction Noise Assessment, Acoustic Engineering Services.

Construction Activity	Estimated Maximum Internal Noise
Concrete pumping and pouring	53-61 dB L _{Aeq}
Concrete floating	60 dB L _{Aeq} (upper floors)
Cranage	53 dB L _{Aeq}
Envelope and internal fitout Use of power tools	60 dB L _{Aeq}

The estimated maximum internal noise levels for the above ground construction activities are based on the worst case where it is not practical to maintain the recommended setbacks and screening. The occasions where these internal noise levels will occur will be for a very limited duration (in the case of concrete pumping and pouring) or where a moving noise source is operating temporarily in these areas (in the case of the concrete floating). Therefore, while there may be instances of internal noise levels exceeding 55 dB L_{Aeq}, the limited duration will result in a less than minor effect on noise receivers.

7.2.3 Noise Duration

While overall the construction activity at the site is considered to be of a long term duration as construction of the Ōtepoti building will exceed 20 weeks, noise levels exceeding 70 dB L_{Aeq} will not be constant during these times and the durations specified in Section 3.2 where noise will exceed the permitted standards will be of a very short term when considered in the context of the wider construction work.

The precise location of noise sources varies across the site throughout the duration of the project which limits the noise levels experienced by noise receivers, as demonstrated by the estimated durations within Table 4 above. Additionally, some noise sources such as the tracked excavators or plate compactor are moving noise sources, resulting in intermittent exceedances of 70 dB L_{Aeq} at the 9 Dowling Street façade. During the specified durations, there will be times at which minimal noise is present on the site or noise that complies with the 70 dB L_{Aeq} limit due to the setup required between sheet piling operations. Furthermore, many of the other construction activities will result in moving noise sources, resulting in the expected noise levels being a snapshot or temporary noise effects as the noise source moves around the site. Moving noise sources used for the construction of the Ōtepoti building will include tracked excavators, vibratory compactors, and concrete floating.

The Proposed 2GP includes an 80 dB L_{Aeq} limit for construction activities that are of a short duration. This increased noise limit indicates that higher noise levels are tolerable for noise receivers for short periods. The construction activities that will result in noise at the façade of the building at or above this level will only be experienced for short durations throughout the total construction timeframe for the Ōtepoti building.

As discussed in Section 3.3, open communication will be maintained with all receivers within the building to try and undertake noisy work at times that are least disruptive. This consultation will mitigate adverse noise effects through minimising the impact that noisy works will have as far as practicable. Maintaining open communication with affected noise receivers is in accordance with industry best practice established within NZS6803:1999.

Given the temporary nature of the noise effects at the identified building, it is considered that while some activities will be disruptive to some noise receivers within those buildings, the limited duration of those activities mitigates the level of adverse effects. Therefore, while some construction activities will result in noise levels at the façade above 80 dB L_{Aeq} and above 60 dB L_{Aeq} internally, the temporary nature of these effects means that those noise adverse noise effects are only minor.

7.2.4 Noise Mitigation

As discussed in Section 3.3, the contractors involved with the construction of the Ōtepoti building will follow industry best practice in regard to mitigating as far as practicable construction noise arising from the site. The mitigation implemented includes the use of acoustic enclosures around noise sources to reduce the sound levels experienced by noise receivers. In their construction noise assessment, AES notes that the methodology and physical and managerial mitigation within the NVMP represent the best practicable option to minimise noise effects at the nearest receivers.

Based on the adoption of the best practicable methods to mitigate noise, it is not considered possible to develop this site while complying with the noise standards given the nature of the surrounding urban environment. Given the proposed mitigation and short duration of noise sources and, it is considered that this is the best outcome while still achieving the development potential of the site.

7.2.5 Noise Effects Conclusion

It has been identified that the construction activities for the Ōtepoti building will likely have a no more than minor adverse effect on noise receivers within the identified building. In coming to this determination, the following factors were considered:

Adverse noise effects are only experienced by noise receivers located within the setback required to achieve compliance with 70 dB L_{Aeq} . This is limited to a small number of adjoining parties, as outlined in Section 10;

The short term duration and temporary nature of construction noise sources limits the intensity of the adverse noise effects on these parties; and

The adverse noise effects are being mitigated as much as possible using the best practicable options.

7.3 Cumulative Noise Effects

Consideration of cumulative noise effects must also be undertaken when considering the number of noise sources that may be located on the site and that an additional land use consent is sought for construction noise received at 9 Dowling Street. In relation to the first point, AES noted within their construction noise assessment that most construction activities will occur in sequence and not simultaneously, ensuring that the predicted noise levels are the worst case noise levels³.

Given that this application is one of two relating to construction noise at the site, potential cumulative adverse effects must be considered from exercising both land use consents at the same time. In this case, AES have provided the setbacks that are required from noise sources to comply with the 70 dB L_{Aeq} noise limit. These setbacks demonstrate that noise sources associated with works adjoining 9 Dowling Street will not result in noise at the building façades adjoining Robson Alley that exceeds 70 dB L_{Aeq} .

Given the above, it is considered that there are no adverse cumulative effects arising from this application.

7.4 Positive Effects

In addition, the proposal will have positive effects on the environment, being enabling the construction of the consented Ōtepoti building while mitigating, as far as practicable, the adverse effects of noise. The

³ Para. 8, Page 15, Ground Works and Building Construction Resource Consent, ACC Development, Dunedin – Assessment of Construction Noise Effects, Acoustic Engineering Services, February 2022

site of the Ōtepoti building has long been identified for development. The resultant building will fill a significant gap within the heritage streetscape with a building of a high architectural design value.

7.5 Environmental Effects Assessment Summary

Overall, from the assessment undertaken above the proposal will have actual and potential effects that are considered to be minor on a limited number of receivers in buildings located within the setbacks required to comply with the 70 dB L_{Aeq} noise limit within the Central Business District Zone under the Proposed 2GP.

8 STATUTORY ASSESSMENT

Section 104(1) requires that when considering an application for a resource consent, the consent authority must have regard to the matters set out in 104(1)(a), (ab), (b) and (c). These matters are addressed below, and all are subject to Part 2 of the Act.

8.1 Section 104(1)(a) of the Act

Section 104(1)(a) requires the consent authority to have regard to ‘any actual and potential effects on the environment of allowing the activity’.

As assessed in Section 7 above, the proposal will have actual and potential effects that are considered to be minor on a limited number of receivers in buildings within the setbacks required to comply with the 70 dB L_{Aeq} noise limit within the Central Business District Zone under the Proposed 2GP.

8.2 Section 104(1)(ab) of the Act

Section 104(1)(ab) requires that the consent authority consider “any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity”.

In the case of this particular application, the proposal is not of a scale or nature that would require specific offsetting or environmental compensation measures to ensure positive effects on the environment.

8.3 Section 104(1)(b) of the Act

Section 104(1)(b) requires the consent authority must to have regard to:

any relevant provisions of –

- (i) a national environmental standard;
- (ii) other regulations;
- (iii) a national policy statement;
- (iv) a New Zealand coastal policy statement;
- (v) a regional policy statement or proposed regional policy statement; and

(vi) a plan or proposed plan.

An assessment of the relevant statutory documents that corresponds with the scale and significance of the effects that activity may have on the environment has been provided below.

8.3.1 Partially Operative Otago Regional Policy Statement and Proposed Otago Regional Policy Statement

In this case, the objectives and policies of both regional policy statements are not relevant to this application as there are no specific provisions relating to the management of the adverse effects of noise.

8.3.2 Operative Dunedin District Plan

8.3.2.1 Environmental Issues

Objective 21.2.2 seeks to ensure that noise associated with the development of resources and the carrying out of activities does not affect public health and amenity values. Supporting **Policy 21.3.3** seeks to protect people and communities from noise and glare which could impact upon health, safety and amenity.

The construction activities and noise sources will result in noise exceeding 70 dB L_{Aeq} for short durations during the overall construction timeline on a limited number of receivers. It is acknowledged that where noise generated occurs for prolonged periods, public health can be adversely affected. In this instance however, noise exceeding 70 dB L_{Aeq} will only occur for short durations within the specified working hours for the site. The hours of operation for this site are important, as there are residential activities occurring within affected buildings that would be more significantly affected if work were to occur outside the identified hours of operation. Furthermore, noise experienced internally is expected to not occur at a level that could result in any health or safety effects.

Given that the site is located within the CBD and has been earmarked for development, some degree of construction noise is to be expected in this area. The noise generated on the site is also being mitigated as far as practicable. Therefore, it is considered that the construction noise is consistent with the amenity outcomes for this area.

Overall, it is considered that the proposal is consistent with the objectives and policies relating to noise within the Operative Dunedin District Plan.

8.3.3 Proposed Dunedin Second Generation District Plan

8.3.3.1 Temporary Activities

Objective 4.2.1 seeks to enable temporary activities while minimising, as far as practicable, any adverse effects on the amenity and character of the zone and adverse effects on people's health and safety. Supporting **Policy 4.2.1.1** requires that temporary activities are designed and operated to ensure any adverse effects on the amenity and character of the zone and adverse effects on people's health and safety are minimised as far as practicable. We note that Policy 4.2.1.1 is currently subject to appeal.

The key parts of Objective 4.2.1 and Policy 4.2.1.1 refer to adverse effects on the public's health and safety and amenity of the zone being minimised as far as practicable. As discussed above, all practicable measures will be implemented throughout the timeline for the construction of the Ōtepoti building, and this has been confirmed by the construction noise assessment prepared by AES. Adverse noise effects arising from construction activities will be short in duration and restricted to normal hours of operation to ensure that adjoining residential activities will not be affected during usual sleeping hours. Furthermore, noise experienced internally is expected to not occur at a level that is likely to result in any health or safety effects. Given that the site is located within the CBD Zone, some level of construction noise can be expected, particularly as this site has been earmarked for development. As the noise effects are being minimised as far as practicable, it is considered that the proposal is consistent with the amenity and character outcomes for the CBD Zone.

Overall, it is considered that the proposal is consistent with the objectives and policies for temporary activities under the Proposed 2GP.

8.4 Weighting

An assessment of weighting is only relevant if the outcomes under the operative and proposed planning frameworks are different. In this case as the outcome is the same, no weighting is required.

8.5 Section 104(1)(b) Summary

The above assessments demonstrate that the proposal will be consistent with and not contrary to the relevant objectives and policies of the relevant statutory documents, subject to fair and reasonable conditions being imposed as recommended in Section 9.

8.6 Section 104(1)(c) of the Act

In addition to the matters of regard covered under sections 104(1)(a), (ab) and (b), section 104(1)(c) states that consideration must be given to "any other matters that the consent authority considers relevant and reasonably necessary to determine the application."

There are no other matters relevant to this application.

9 OTHER RELEVANT SECTIONS OF THE ACT

9.1 Section 104D Test for Non-Complying Activities

To be able to grant consent to a non-complying activity, a council must be satisfied that either the adverse effects of the activity on the environment will be minor (s104D(1)(a)), or the proposed activity will not be contrary to the objectives and policies of a proposed plan and/or plan (s104D(1)(b)). This consideration is commonly known as the 'threshold test' or the 'gateway test'. If either of the limbs of the test can be passed, then the application is eligible for approval, but the proposed activity must still be considered under Section 104. There is no primacy given to either of the two limbs, so if one limb can be passed then the 'test' can be considered to be passed.

As identified in the assessment above, the adverse effects of the activity on the environment will be minor and the proposed activity will not be contrary to the objectives and policies of both the Operative Plan and Proposed 2GP. As such the application can be considered under Section 104 and a determination made on the application as provided by Section 104B.

9.2 Section 16 – Duty to Avoid Unreasonable Noise

Section 16 of the Act requires that every occupier of land and every person carrying out an activity shall adopt the best practicable option to ensure that the emission of noise from that land does not exceed a reasonable level.

In this case, noise arising from construction activities is being mitigated as far as practicable for the site. The development of a multi-storied building within a commercial area will always result in the emission of noise beyond the site boundaries, particularly in locations where buildings are located on site boundaries. While the construction activities within this application will result in noise levels which exceed 70 dB L_{Aeq} at the facades of some adjoining buildings, all practicable options will be implemented to minimise this noise. Given the location of the site within the existing CBD, it is reasonable to expect construction noise associated with the further development of that area for short durations. Given that the noise emissions from the site will not be permanent and that they are arising from the construction of a commercial building within the CBD, it is considered that the emission of noise from the site is within a reasonable level.

9.3 Section 108 – Recommended Conditions of Consent

As identified in the preceding assessment there are a number of recommended conditions of consent that will avoid, remedy or mitigate the potential adverse effects of the proposed activity on the environment. It is anticipated that the Council will adopt conditions relating to the following matters.

- 1) Submission of the following plans to council for certification prior to above ground works commencing on site:
 - A Construction Noise and Vibration Management Plan (CNVMP) shall be prepared by a suitably qualified experienced practitioner that addresses the requirements of Annex E of NZS6803:1999 “Acoustics – Construction Noise” and DIN 4150-3:2016 “Vibration in buildings – Part 3: Effects on structures”; and outlines how noise and vibration will be managed to ensure effects received at surrounding sites are minimised. The plan must include:
 - the results of the pre-condition building surveys required by condition X.
 - mitigation measures that will ensure, as far as reasonably practicable, the work will comply with noise limits of 70 dB L_{Aeq} and 85 dB L_{Amax} .
 - mitigation measures for higher noise generating activities that cannot practicably comply with noise limits of 70 dB L_{Aeq} and 85 dB L_{Amax} .
 - specific mitigation measures for the management of noise received at the following buildings [insert references any sensitive receptors where specific management required], including the triggers or thresholds for implementing them.

- specific mitigation measures for the management of vibration received at the following buildings. [insert references any sensitive receptors where specific management required], including the triggers or thresholds for implementing them.
- procedures for noise and vibration monitoring, including vibration induced structural and cosmetic damage, and associated contingency actions.
- procedures for communication with surrounding activities.
- procedures for the receipt, management and response to any complaints received about noise or vibration.

It is requested that the draft conditions be provided to 4Sight in advance of a decision being made on the application.

10 NOTIFICATION ASSESSMENT – SECTIONS 95A TO 95G OF THE ACT

10.1 Public Notification Assessment

Section 95A requires a council to follow specific steps to determine whether to publicly notify an application. The following is an assessment of the application against these steps:

10.1.1 Step 1: Mandatory Public Notification in Certain Circumstances

An application must be publicly notified if, under section 95A(3), it meets any of the following criteria:

- (3) (a) *the applicant has requested that the application be publicly notified:*
- (b) *public notification is required under section 95C:*
- (c) *the application is made jointly with an application to exchange recreation reserve land under section 15AA of the Reserves Act 1977.*

It is not requested the application be publicly notified and the application is not made jointly with an application to exchange reserve land. Therefore Step 1 does not apply and Step 2 must be considered.

10.1.2 Step 2: Public Notification Precluded in Certain Circumstances

An application must not be publicly notified if, under section 95A(5):

- (5) (a) *the application is for a resource consent for 1 or more activities, and each activity is subject to a rule or national environmental standard that precludes public notification:*
- (b) *the application is for a resource consent for 1 or more of the following, but no other, activities:*
- (i) *a controlled activity:*
 - (iii) *a restricted discretionary, discretionary, or non-complying activity, but only if the activity is a boundary activity:*

In this case public notification is not precluded, therefore Step 2 does not apply and Step 3 must be considered.

10.1.3 Step 3: Public notification required in certain circumstances

An application is required to be publicly notified if one of the following circumstances are met, under section 95A(8):

- (8) (a) *the application is for a resource consent for 1 or more activities, and any of those activities is subject to a rule or national environmental standard that requires public notification;*
- (b) *the consent authority decides, in accordance with section 95D, that the activity will have or is likely to have adverse effects on the environment that are more than minor.*

There is no rule or environmental standard that requires public notification however an assessment of adverse effects is required.

10.1.3.1 Section 95D(a) – Adjacent Land

In terms of section 95D(a), the following land is adjacent to the subject site.



Figure 2: Adjacent land to the subject site at 15 Dowling Street, Dunedin.

The assessment of environmental effects undertaken in Section 7 concluded that the activity will have no more than minor effects on the environment as a whole. In particular, buildings and noise receivers located outside of the setback buffers from the noise sources (identified in Section 3.2) will not experience any adverse noise effects, as the noise received at the building façade will be less than 70 dB L_{Aeq} , which is the permitted noise level within the Proposed 2GP.

10.1.3.2 Step 3 Summary

With respect to section 95D, the adjacent land (discussed above), permitted baseline, trade competition and written approvals were considered as part of the assessment of environmental effects undertaken in Section 7 of this report, which found that the adverse effects on the environment will be minor. Therefore Step 3 does not apply and Step 4 must be considered.

10.1.4 Step 4: Public notification in special circumstances

Section 95A (9) states that a council must publicly notify an application for resource consent if it considers that 'special circumstances' exist, notwithstanding that Steps 1 to 3 above do not require or preclude public notification.

Special circumstances are not defined in the Act. Case law though has identified special circumstances as something outside the common run of things which is exceptional, abnormal or unusual but less than extraordinary or unique. A special circumstance would be one which makes notification desirable despite the general provisions excluding the need for notification. The council should be satisfied that public notification may elicit additional information on the aspects of the proposal requiring resource consent.⁴

However, special circumstances must be more than:

- where a council has had an indication that people want to make submissions;
- the fact that a large development is proposed;
- the fact that some persons have concerns about a proposal.

There are no special circumstances that exist to justify public notification of the application because:

The proposal will result in adverse noise effects that are restricted to buildings identified as receiving noise at the building façade above 70 dB L_{Aeq}.

The project is not considered to be controversial or of significant public interest.

The application and its supporting material have been prepared by a set of qualified professionals with input from noise consultants. It is very unlikely that notification would elicit any additional, relevant information.

It would not be desirable in all the circumstances above to notify the application

10.1.5 Public Notification Summary

From the assessment above it is considered that the application does not need to be publicly notified, but assessment of limited notification is required.

10.2 Limited Notification Assessment

If the application is not publicly notified, a consent authority must follow the steps of section 95B to determine whether to give limited notification of an application.

10.2.1 Step 1: Certain affected groups and affected persons must be notified

The application must be limited notified to the relevant persons if the following are determined, as specified by section 95B(2) and (3):

⁴ *Far North District Council v Te Runanga-a-iwi o Ngati Kahu* [2013] NZCA 221 at 36–37

- (2) (a) *affected protected customary rights groups; or*
 (b) *affected customary marine title groups (in the case of an application for a resource consent for an accommodated activity).*
- (3) (a) *whether the proposed activity is on or adjacent to, or may affect, land that is the subject of a statutory acknowledgement made in accordance with an Act specified in Schedule 11; and*
 (b) *whether the person to whom the statutory acknowledgement is made is an affected person under section 95E.*

There are no protected customary rights groups or customary marine title groups or statutory acknowledgement areas that are relevant to this application. Therefore Step 1 does not apply and Step 2 must be considered.

10.2.2 Step 2: Limited notification precluded in certain circumstances

In the following circumstances an application must not be limited notified to any persons, as specified by section 95B(6):

- (6) (a) *the application is for a resource consent for 1 or more activities, and each activity is subject to a rule or national environmental standard that precludes limited notification;*
 (b) *the application is for a controlled activity (but no other activities) that requires a resource consent under a district plan (other than a subdivision of land).*

There is no rule in the plan or national environmental standard that precludes notification. The application is not for a controlled activity. Therefore Step 2 does not apply and Step 3 must be considered.

10.2.3 Step 3: Certain other affected persons must be notified

Other affected persons must be notified in the following circumstances specified by section 95B(7) and (8):

- (7) *In the case of a boundary activity, determine in accordance with section 95E whether an owner of an allotment with an infringed boundary is an affected person.*
- (8) *In the case of any other activity, determine whether a person is an affected person in accordance with section 95E.*

The proposal is not for a boundary activity.

In deciding who is an affected person under section 95E, a council under section 95E(2):

- (2) (a) *may disregard an adverse effect of an activity on a person if a rule or national environmental standard permits an activity with that effect (i.e. council may consider the “permitted baseline”);*
- (b) *must disregard an adverse effect that does not relate to a matter for which a rule or environmental standard reserves control or restricts discretion; and*
- (c) *must have regard to every relevant statutory acknowledgement made in accordance with a statute set out in Schedule 11 of the Act.*

A council must not consider that a person is affected if they have given their written approval or it is unreasonable in the circumstances to seek that person’s approval. It is noted that consultation will be undertaken with the parties identified below to obtain written approvals.

With respect to section 95B(8) and section 95E, the permitted baseline, and written approvals were considered as part of the assessment of environmental effects undertaken in Section 7 of this report, which found that the potential adverse effects on the environment will be no more than minor.

The following tenancies within Building A at 9 Dowling Street (as shown on the floor plan in Appendix C) have been identified as being subject to minor adverse noise effects for the construction activities specified in Section 3.2 above:

- Tenancy 0.5 – Residential Tenant;
- Tenancy 0.6 – Saskia Leech and Nick Austin;
- Tenancy 0.7 - TVNZ;
- Tenancy 1.2 – Clive Copeman Photography;
- Tenancy 2.1 – Vacant residential tenancy;
- Tenancy 2.2 – akB Conference and Event Management;
- Tenancy 2.3 – Dave Callon SHARE Financial Advisor; and
- Ground floor Queens Gardens – Harcourts.

The tenants within the affected buildings below are restricted to those that are located in areas of the buildings facing the subject site (Figure 3 below). Other tenants within the affected buildings that are located on the opposite side of the building have not been deemed affected as they will not experience internal noise levels that are disruptive. This is due to the dampening of sound provided by buildings and the increased setback distances from the noise source to the noise receiver.

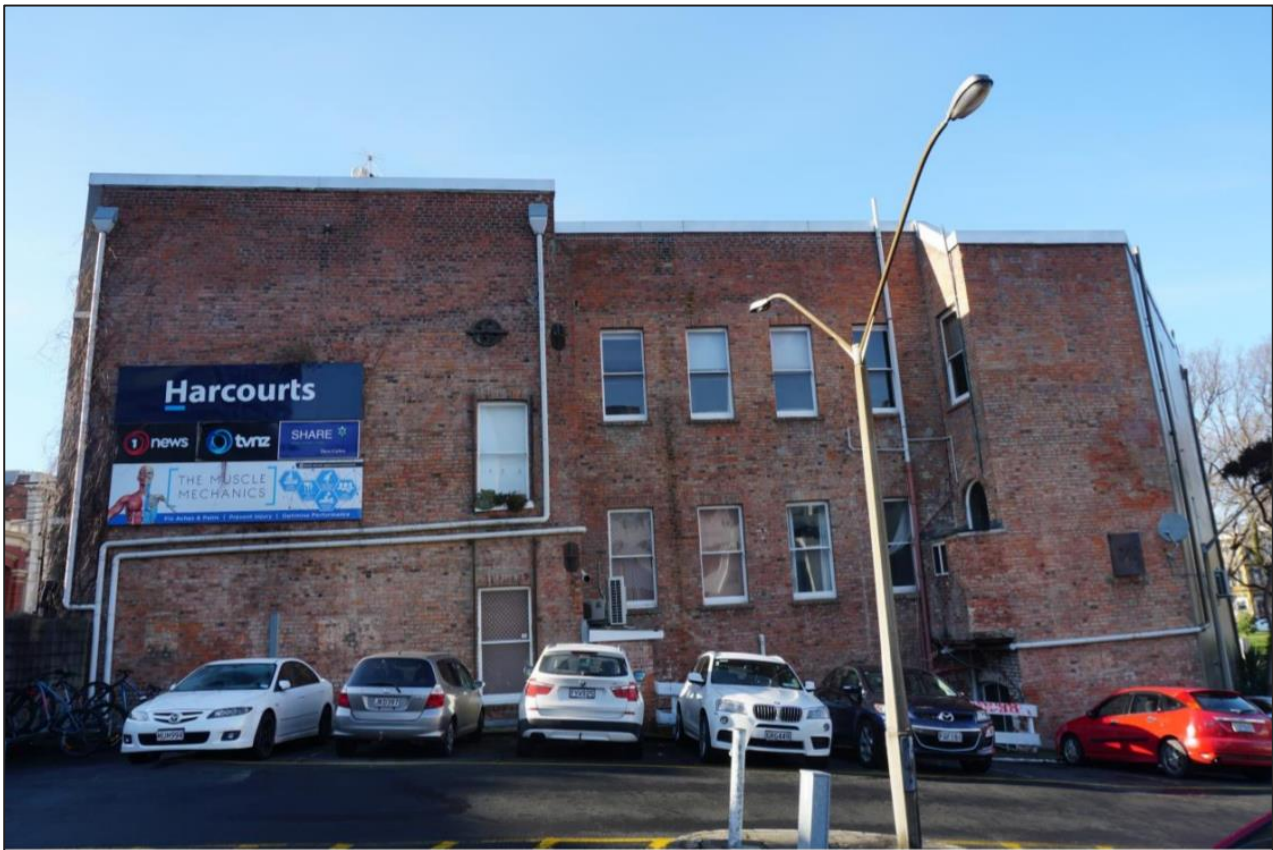


Figure 3: Parts of building at 9 Dowling Street facing the subject site.

10.2.3.1 Statutory Acknowledgements

There are no statutory acknowledgements that are relevant to this application.

10.2.4 Step 3 Summary

As there will be minor adverse effects on the persons identified in Section 11.2 above, written approvals are currently being sought for the identified parties, and these will be supplied to Council when these are received. In addition, Step 4 must also be considered.

10.2.5 Step 4: Further notification in special circumstances

As required by section 95B(10), a council must determine the following:

- (10) whether special circumstances exist in relation to the application that warrant notification of the application to any other persons not already determined to be eligible for limited notification under this section (excluding persons assessed under section 95E as not being affected persons)*

The proposal is for construction activities to exceed the permitted noise limit on the facades on a number of identified buildings and consideration of effects on any person has been undertaken at Step 3 where it

was considered that the adverse noise effects received at all other buildings are less than minor. As such it is not considered there are any other persons who would warrant notification of the application.

10.2.6 Limited Notification Assessment Summary

It is recommended that the persons identified in Section 10.2 of this report above are given limited notification of this application where the affected party approvals are not supplied to Council.

10.3 Notification Assessment Conclusion

Pursuant to sections 95A to 95G, it is recommended that the Council determine the application be limited notified for the following reasons:

The application does not require public notification in accordance with section 95A;

In accordance with section 95B Step 2, limited notification is not precluded and 95B Step 3 therefore applies;

In accordance with section 95B Step 3 and section 95E, there are certain persons to which written approvals are being sought as identified in **Error! Reference source not found.** above;

In accordance with section 95B Step 4, there are no special circumstances to warrant limited notification to any other persons.

11 PART 2 ASSESSMENT

We consider that those aspects of the Proposed 2GP relevant to this application have been 'competently prepared under the Act', in the sense referred to by the Court of Appeal⁵. The council is therefore not obliged to conduct an evaluation under Part 2 of the Act, and Part 2 considerations should not be used to override the plan provisions. However, for the sake of completeness, and to remove any doubt, the following assessment against Part 2 has also been undertaken.

Section 5 in Part 2 identifies the purpose of the Act as being the sustainable management of natural and physical resources. This means managing the use of natural and physical resources in a way that enables people and communities to provide for their social, cultural and economic well-being while sustaining those resources for future generations, protecting the life supporting capacity of ecosystems, and avoiding, remedying or mitigating adverse effects on the environment.

Section 6 of the Act sets out a number of matters of national importance. There are no matters of national importance that are relevant to this application.

Section 7 identifies a number of "other matters" to be given particular regard to in the consideration of any assessment for resource consent. The following other matters have been considered:

- (c) the maintenance and enhancement of amenity values.

⁵ R J Davidson Family Trust v Marlborough District Council [2018] NZCA 316, paras 74 and 75

While noise effects may adversely affect amenity values, it is considered in this instance that construction noise in a CBD location can reasonably be expected. The noise emissions from the site will be mitigated as far as practicable to ensure that the temporary noise effects are minimised. It is considered that the proposal will not degrade amenity values.

Section 8 requires Council to take into account the principles of the Treaty of Waitangi, and this has also informed our assessment under section 104 of the Act.

Overall, the application is considered to be consistent with the relevant provisions of Part 2 of the Act, as expressed through the objectives, policies and rules that we reviewed in earlier sections of this application. Given that consistency, we conclude that the proposal achieves the purposes of sustainable management set out by section 5 of the Act.

12 CONCLUSION

The Applicant seeks resource consent undertake construction activities at 15 Dowling Street adjoining 9 Dowling Street that will exceed the construction noise limit of 70 dB L_{Aeq} at this building.

In terms of section 104(1)(a) of the Act, the actual and potential effects of the proposal will be no more than minor, as discussed in sections 7 and 8 of this report. In particular, the construction noise at the façade will result in minor and short term adverse noise effects on a limited number of noise receivers within the above buildings.

The proposal will generate a number of positive effects including enabling the construction of the consented Ōtepoti building while mitigating, as far as practicable, the adverse effects of noise on these receivers. The site of the Ōtepoti building has long been identified for development. The resultant building will fill a significant gap within the heritage streetscape with a building of a high architectural design value.

In terms of section 104(1)(b) of the Act, the proposal will be consistent with the objectives and policies of the Operative Dunedin District Plan and the Proposed 2GP that manage noise as any adverse public health or amenity effects have been minimised as far as practicable. Additionally, the proposal will not result in any unreasonable emission of noise in terms of section 16 of the Act.

In terms of section 104D of the Act, the proposal will not result in adverse effects that are more than minor, and as discussed above, the proposal will not be contrary to any relevant objectives and policies of the Operative Dunedin District Plan or Proposed 2GP.

At this time the application does not need to be limited notified as we expect all parties which may experience minor noise effects to supply their written approval to the application.

Hence, in accordance with section 104B and section 104D in relation to non-complying activities, it is considered appropriate for consent to be granted subject to fair and reasonable conditions.

Appendix A

Certificates of Title



RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Search Copy



R.W. Muir
Registrar-General
of Land

Identifier **810090**

Land Registration District **Otago**

Date Issued 12 August 2020

Prior References

OT18C/416 OT308/88 OT308/89
OT308/90

Estate Fee Simple
Area 3663 square metres more or less
Legal Description Lot 1 Deposited Plan 517797
Registered Owners
Dunedin City Council

Interests

Subject to a right of light and air, right of encroachment, drainage rights over part marked B on DP 517797 created by Transfer 212273 - 20.2.1959 at 11.07 am

5004963.1 Transfer creating the following easements - 5.7.2000 at 2:50 pm

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Right of way	Lot 1 DP 517797 - herein	A and B on DP 517797	Part Section 55, 55 Block IX Town of Dunedin - CT OT139/90	N/A

5004963.2 Transfer creating the following easements - 5.7.2000 at 2:50 pm

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Right of way	Lot 1 DP 517797 - herein	A and B on DP 517797	Lot 2 Deposited Plan 12421 - CT OT5B/1005	N/A

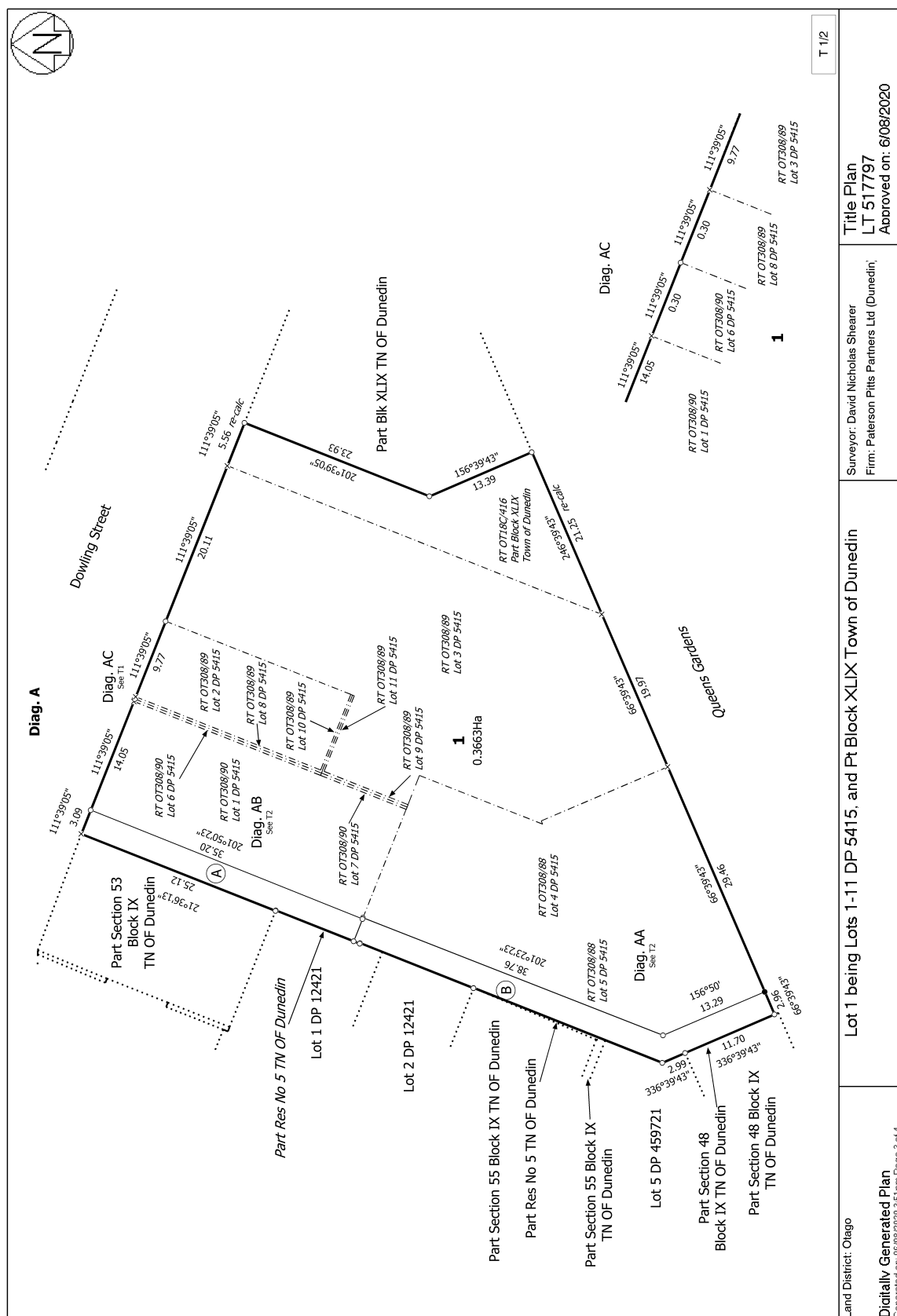
5004963.3 Transfer creating the following easements - 5.7.2000 at 2:50 pm

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Right of way	Lot 1 DP 517797 - herein	A and B on DP 517797	Part Section 55, 55, 48 Block IX Town of Dunedin - CT OT159/36	N/A

5004963.4 Transfer creating the following easements - 5.7.2000 at 2:50 pm

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Right of way	Lot 1 DP 517797 - herein	A and B on DP 517797	Lot 2-3 Deposited Plan 12321 and Part Section 53 Block IX Town of Dunedin - CT OT5B/231	N/A

Subject to a right of way over part marked A and B on DP 517797 created by Easement Instrument 9977441.2 - 10.9.2015 at 10:30 am



Appendix B

Construction Noise Assessment by Acoustic Engineering Services

File Ref: AC20175 – 06 – R7

28 February 2022

Mr J. Jackson
Ngāi Tahu Property

Email: james.jackson@ngaitahu.iwi.nz

Dear James,

**Re: Ground works and Building Construction Resource Consent, ACC Development, Dunedin
Assessment of Construction Noise Effects**

1.0 BACKGROUND

Acoustic Engineering Services Ltd (AES) have been engaged to provide advice relating to Construction Noise Effects for the ACC development. This report discusses construction noise effects associated with ground work activities which may exceed the District Plan construction noise limits for the ACC development, as well as activities likely to be associated with the remaining building construction phases.

The ACC development is a four storey office building located on Dowling Street, in Dunedin. The base build design comprises of open plan office spaces, a central open stairwell between levels, and a central amenities block.

Our report is based on the Noise and Vibration Management Plan (herein NVMP) prepared for the site ground works by Southern Geophysical for Smith Crane and Construction Ltd, Version 1.4, and dated the 7th of December 2021.

1.1 Proposal

1.1.1 Ground works

We understand that the following activities, as extracted from the Ground Works NVMP, are proposed for this phase of the work:

- *Demolition of the site will involve the removal of existing retaining structures using a 20T excavator. The existing carpark pavements will be removed by scraping the surface of the site.*
- *Temporary sheet pile retaining structures will be installed next to Robson Alley, Dowling St and on the southern site boundary. The vibratory hammer used to install the sheet piles will be suspended with a 100T crawler crane and driven by a Bosch hydraulic power unit.*
- *Bulk excavation will involve the use of a 20T excavator. The site will be excavated to different levels or heights and will include the construction of fill batters and ramp access for heavy machinery. These works will be undertaken by a 20T excavator. The site will be over excavated by 300 mm with the removed material replaced with a compacted engineering fill to be used as a platform for piling operations. Materials will be disposed of into a truck and trailer and removed from site. Compaction will involve the use of an 8T vibratory roller or 500kg plate compactor.*

- Archaeological investigations will be ongoing with areas of the site surface scraped (100 mm per scrape) during general excavation activities.
- Piling works will involve the installation of 71 concrete reinforced piles. Temporary pile casings will be installed using two methods: screw pile casing and vibrated casing. Excavation of the piles will be undertaken with a drilling auger mounted on the piling Bauer BG25 Drilling Rig. If large boulders or obstructions are encountered when excavating, a crane suspended hydraulic clamshell will be used. Prefabricated pile reinforcing cages will be lowered into the pile casing. The pile casing will then be filled with concrete using a concrete pump and tremie tube setup. The temporary pile casings are removed using a vibratory hammer as pile is filled with concrete. Excess water used during the pile concreting process will be pumped into settlement tanks.
- Concrete retaining structures will be installed close to the temporary sheet pile retaining walls. This will involve concrete pouring of new floor slabs and drains prior to the installation of precast concrete wall panels. The concrete panels will be backfilled with aggregate and compacted in layers of 250 mm or less, preferably with vibratory roller. After the concrete retaining walls are installed the temporary sheet piles will be removed with the vibratory hammer.

Figure 1.1 below is extracted from the Ground Works NVMP and outlines what piling methodology will occur throughout the site, where the sheet piling will occur, and the surrounding properties.

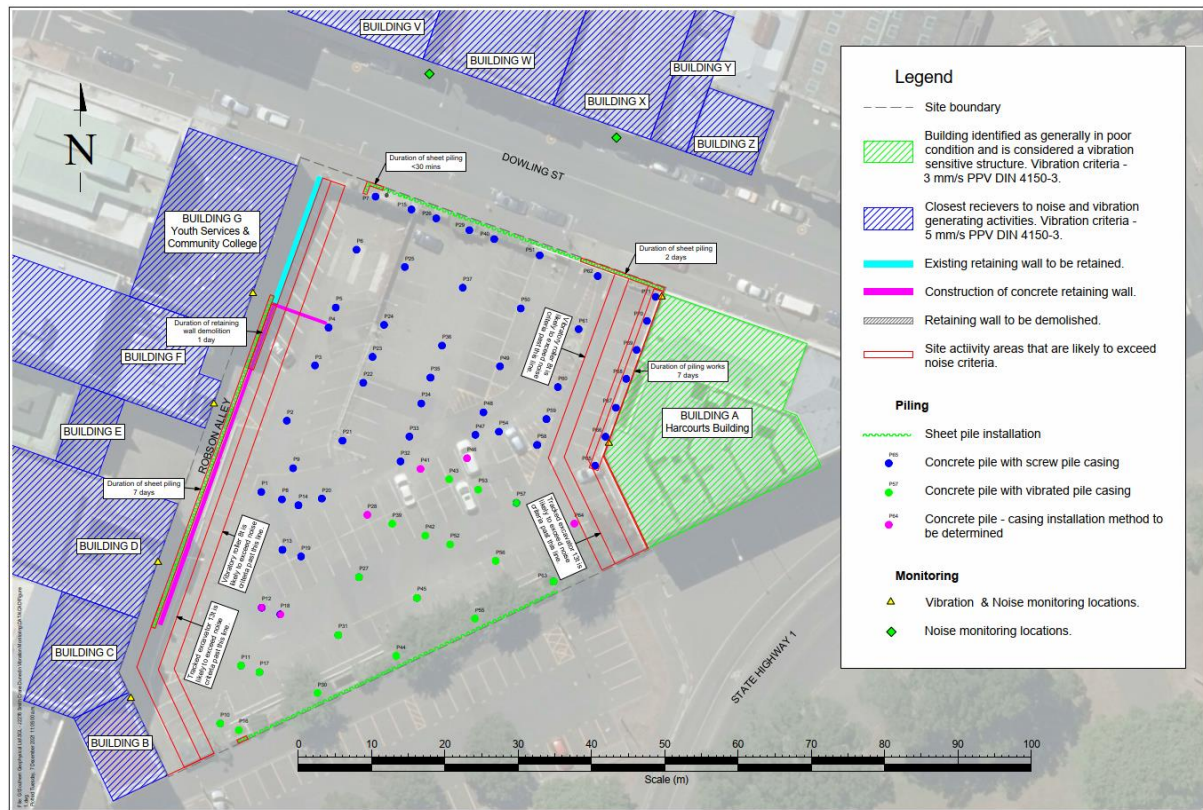


Figure 1.1 – ACC development piling types and locations

1.1.2 Building construction

At the time of issuing this report, a main building contractor had not been selected, and as such a NVMP for the main construction works has not been completed. Based on the size of the building, and our experience with other similar projects we have assumed that the following activities are likely to occur:

- Concreting, including pumping and floating

- Cranage
- Heavy vehicle movements
- General fitout/construction work (grinders, saws, etc.)

1.2 Nearby receivers

As shown in figure 1.1 above, there are a number of buildings close to the subject site. To the east is the Harcourts Building (Building A), and to the west are several buildings across Robson Alley (Buildings B – G). These buildings all have at least two levels and are typically of a heavyweight masonry or brick construction. All have at least one occupied tenancy with windows facing towards the site.

There are also buildings on the opposite side of Dowling Street, setback in the order of 20 metres from the site boundary (Buildings V – Z). These buildings also have at least two levels and are of heavyweight construction with windows facing towards the site.

To determine the likely noise sensitivity of the receivers, we have reviewed the building façade constructions and known occupants for Buildings B – G closest to works on the site. A summary of the current state of known building occupants is provided in table 1.1 below. Attachment 1 to this report contains photos of the facades of these buildings for further reference.

Table 1.1 – Known tenancies of buildings closest to site

Receiver	Known tenancies facing site	Notes
Building A Harcourts Building 9 Dowling Street	Office space (Ground Floor, 0.7) Art Studio (Ground Floor, 0.6) Residential (Ground Floor, 0.5) Photography Studio (Level 1, 1.2) Vacant (Level 2, 2.1) Office space (Level 2, 2.2 and 2.3)	Tenancies 0.7 and 1.2 are primarily brick façade, with only one window and door directly oriented towards the site. Tenancies 0.5, 2.2 and 2.3 also have limited windows and are primarily brick/block façade.
Building B 5 Queens Gardens	La Maison House of Pleasure	Building may be vacant. We understand that the landlord is due to change and the likely future use is apartments.
Building C Stanton Building 201 Princes Street	MicroGEM (Level 1) Heritage NZ Offices (Level 2) Residential (penthouse)	
Building D National Bank of New Zealand Building 193 Princes Street	Dance Studio Octa Associates (Level 3) Forsyth Barr Investment Advice Residential (Level 4)	First and second floor adjoining Robson Alley are vacant, Forsyth Barr are moving out early March. Some upper levels of this building adjoining Princes Street are in the order of 35 metres from the site.
Building E 173 Princes Street	Citywide Office Supplies (Ground Floor) Vacant (Level 1)	Upstairs office space is vacant. Ground Floor façade facing site is undercover parking and some façade with only two windows and an entry door.
Building F 169 Princes Street	Dunedin Dental (Ground Floor) Community Law Otago (Level 1) Diastorm Technology (Level 2) Woo Media (Level 2)	Ground Floor contains undercover parking and rear entry doors with no windows. Some upper tenancies adjoining Princes Street are located in the order of 21 metres from the site.
Building G 23 Dowling Street	Comcol (Youth Services and Community College)	Ground floor contains undercover parking. Windows on upper levels

Table 2.1 illustrates that current tenants in these buildings use their spaces for a mixture of office, residential, education and retail/service. Since AS/NZS 2107:2016 *Acoustics – Recommended design sound levels and reverberation times for building interiors* provides similar internal noise level design targets for general office areas, residential living spaces in central city areas, studio spaces and teaching spaces, we consider these to be relatively similar in terms of noise sensitivity to daytime construction noise. Retail spaces are typically less noise sensitive and can accommodate slightly higher noise levels.

2.0 ACOUSTIC CRITERIA

The Resource Management Act requires consideration of the significance of any adverse effects associated with the proposal. Guidance as to the significance of any adverse noise effects may be obtained from several sources.

2.1 Dunedin Second Generation District Plan – construction noise limits

The Dunedin City Council Second Generation District Plan (2GP) Rule 9.3.6.7.k states that construction noise is a temporary activity exempt from the zone noise rules and to refer to Rule 4.5.4. Rule 4.5.4.1.a *Temporary Activities – Performance Standards – Noise – Construction*. This rule states that construction noise must instead be measured and assessed in accordance with NZS 6803:1999 *Acoustics – Construction Noise* and the noise received at buildings housing any noise sensitive activities in any zone must not exceed the limits given in table 2.1 below. Noise sensitive activities include residential activities, visitor accommodation, healthcare, and education settings. While office type activities are not mentioned specifically in the Plan definition of noise sensitive activities, we have assumed that they are of similar sensitivity to daytime noise as some of the other receivers described. NZS 6803 states that if the limits in table 2.1 are used for setting limits in commercial zones, site specific limits should be determined taking into account the nature of land uses. NZS 6803:1999 states the limits apply at 1 metre from the façade of buildings.

Table 2.1 – Noise limits outlined in section 4.5.4 of 2GP (excerpt from NZS 6803:1999)

Time of week	Time period (hours)	Duration of work					
		Typical duration (dB)		Short-term duration (dB)		Long-term duration (dB)	
		L _{Aeq}	L _{max}	L _{Aeq}	L _{max}	L _{Aeq}	L _{max}
Weekdays	0630 – 0730	60	75	65	75	55	75
	0730 – 1800	75	90	80	95	70	85
	1800 – 2000	70	85	75	90	65	80
	2000 – 0630	45	75	45	75	45	75
Saturdays	0730 – 1800	75	90	80	95	70	85
	1800 – 0730	45	75	45	75	45	75
Sundays and public holidays	0730 – 1800	55	85	55	85	55	85
	1800 – 2000	45	75	45	75	45	75

Construction noise received in Industrial, Port and Commercial and mixed-use zones (when not used for noise sensitive activities) for all days of the year must not exceed the limits shown in table 2.2 below.

Table 2.2 – Noise limits outlined in in section 4.5.4 of 2GP (excerpt from NZS 6803:1999)

Time period (hours)	Duration of work		
	Typical duration (dB)	Short-term duration (dB)	Long-term duration (dB)
	L _{Aeq}	L _{Aeq}	L _{Aeq}
0730 – 1800	75	80	70
1800 – 0730	80	85	75

As shown in table 2.1 and 2.2, NZS 6803:1999 *Acoustics – Construction Noise* provides different noise limits for construction activities depending on the duration of the works - distinguishing between ‘short-term duration’ (2 weeks), ‘typical duration’ (2 to 20 weeks), and ‘long-term duration’ (more than 20 weeks). This is because higher noise levels are tolerable for short term activities as opposed to those which continue on for longer. The ‘duration of work’ refers to the total construction activity on the site as opposed to a specific aspect of the construction. Therefore, for the ground works the ‘long-term duration’ (more than 20 weeks) limits apply.

NZS 6803:1999 standard also provides a framework and mitigation strategies to ensure that any adverse effects are minimised, where compliance with the guideline limits is not practicable.

2.2 NZS 6803:1999

As above, the noise limits outlined in the 2GP and table 2.1 are taken from NZS 6803:1999 *Acoustics – Construction Noise*. The standard contains guidelines for the setting of construction noise limits and managing construction noise effects. The Standard states that best practicable options for noise avoidance or mitigation should be applied to construction activities on the site; however, if the best practicable options are applied and the noise limits are still not met, discretion is able to be applied.

Section C7.1.1 of the Standard notes: “The acceptability of construction noise in any community is likely to depend on the potential for interfering with activities, the expected duration of the noise and the existing background sound level at the places affected...”. Section 8.3 provides guidance for community relations and states “Consultation and co-operation between the contractor and the neighbours before commencement of work, and the removal of uncertainty, can help reduce adverse reactions to noise.”

2.3 Discussion

Compliance with the long-term daytime construction noise limits of 70 dB L_{Aeq} and 85 dB L_{AFmax} outlined in the District Plan and NZS 6803:1999 will ensure noise effects are acceptable. However, as with many constrained urban sites, it may not be practical to always comply with these noise limits, even when the best practicable options have been identified and applied to minimise the level and duration of noise emissions. NZS 6803:1999 recommends that a detailed management strategy be applied in these circumstances.

A suitable Condition which captures the NZS 6803:1999 management approach may be:

A Construction Noise and Vibration Management Plan (CNVMP) shall be prepared by a suitably qualified experienced practitioner that addresses the requirements of Annex E of NZS 6803:1999 “Acoustics – Construction Noise” and DIN 4150-3:2016 “Vibration in buildings – Part 3: Effects on structures”; and outlines how noise and vibration will be managed to ensure effects received at surrounding sites are minimised. The plan must include:

- i. the results of the pre-condition building surveys required by condition X.*
- ii. mitigation measures that will ensure, as far as reasonably practicable, the work will comply with noise limits of 70 dB L_{Aeq} and 85 dB L_{Amax}.*

- iii. *mitigation measures for higher noise generating activities that cannot practicably comply with noise limits of 70 dB L_{Aeq} and 85 dB L_{Amax} .*
- iv. *specific mitigation measures for the management of noise received at the following buildings [insert references any sensitive receptors where specific management required], including the triggers or thresholds for implementing them.*
- v. *specific mitigation measures for the management of vibration received at the following buildings. [insert references any sensitive receptors where specific management required], including the triggers or thresholds for implementing them.*
- vi. *procedures for noise and vibration monitoring, including vibration induced structural and cosmetic damage, and associated contingency actions.*
- vii. *procedures for communication with surrounding activities.*
- viii. *procedures for the receipt, management and response to any complaints received about noise or vibration.*

A Construction Noise and Vibration Management Plan (NVMP) has already been prepared for the Ground Works, which has been appended as Attachment 2 for reference. The main Contractor should prepare a NVMP for the Building Construction Activities.

The effect any periods of noise exceeding 70 dB L_{Aeq} may have will depend on a number of factors, including the level of break-in noise experienced inside the receiving building (which will depend on the building structure and design, and if windows are open or closed, for example), the internal layout and type of activity undertaken within the receiving building, the duration of the noise emission and at what times it occurs, and the ambient noise levels already experienced in the receiver's location.

In general terms:

- Where construction noise levels of 71 and 75 dB L_{Aeq} are expected at the façade of noise sensitive spaces the internal noise level within a typical building would be 51 – 55 dB L_{Aeq} with windows closed. While the construction noise will be an obvious new component of the background noise, speech intelligibility will be maintained for conversations at a normal voice effort. Day to day activities are still likely to be possible with minimal modification or disruption.
- Where construction noise received on the façade is 76 – 80 dB L_{Aeq} the internal noise level within a typical building would be 56 – 60 dB L_{Aeq} with windows closed. Noise at this level would be dominant. Speech intelligibility at a normal voice effort and one metre separation would begin to decrease and occupants would likely start to raise their voices or move closer so that intelligibility can be maintained. In a residential setting, or meeting room, the volume of the television may be increased. We expect that it would still be possible to work in an office environment, although activities that require a low background noise level (for example meetings, or some phone calls) may need to be undertaken within internal spaces which do not face towards the construction site. Limiting the duration of exposure to noise at this level is important, along with consultation with the receiver and pre-notification and open communication as the higher noise work gets underway in order to mitigate adverse effects as far as practicable. We note that 80 dB L_{Aeq} is the “short term” duration limit, for construction works up to 14 days. While this limit doesn't apply in this case as the overall duration of the works is much longer, it does indicate that higher noise levels or this order are typically tolerable for short periods.
- Where construction noise received on the façade exceeds 80 dB L_{Aeq} the internal noise level within a typical building space adjoining the facade would exceed 60 dB L_{Aeq} with windows closed. Above 60 dB L_{Aeq} , speech intelligibility at normal voice efforts and separations begins to drop off markedly and conversations would become even more difficult. Noise at these levels would be disruptive for most types of work and communication and occupants are likely to prefer to relocate, or seek quieter spaces within the building until noise levels reduce. As above, limiting the duration of

exposure to noise at this level is important, along with consultation with the receiver and pre-notification and open communication as the higher noise work gets underway in order to mitigate adverse effects as far as practicable.

Where construction noise levels incident on the façade of a noise sensitive tenancy such as an office are likely to remain below 75 dB L_{Aeq} , and the duration is relatively limited, we consider that noise effects are likely to be less than minor as day-to-day activities are likely to be possible with minimal disruption.

In cases where construction noise levels are sustained between 76 – 80 dB L_{Aeq} on the façade of a noise sensitive tenancy, we consider this likely to result in a minor noise effect as occupants are likely to need to change their behaviour to respond to higher internal noise levels.

Where construction noise received at the façade of a noise sensitive tenancy exceeds 80 dB L_{Aeq} , this will be disruptive to most kinds of work and communication for the duration of these works. Where works at this level only occur for limited periods of the total construction timeframe (and building life) and neighbours are adequately consulted to devise methods to reduce this effect as far as possible, and given advance warning of key works, this would represent a minor effect, on average.

3.0 MITIGATION

3.1 Mitigation described in Ground Works NVMP

The Ground Works NVMP outlines the following mitigation measures:

- *Where possible, use the quietest machinery and methods available.*
- *All machinery will be either new, or in good condition upon its arrival at the site and will thereafter be maintained in good condition throughout the entire duration of the project.*
- *Upon arrival at the site, the machinery and plant will be checked to ensure that it is not generating unnecessary noise and will be rectified if necessary.*
- *When selecting any compressors, generators, or pumps for use on the project, the degree of noise generation between models will be considered as a major factor.*
- *All machinery, (including excavators, cranes, and generators) will be fitted with appropriate exhaust silencers where practicable.*
- *When machinery or plant on site is not required to be running, it should be switched off and not left idling.*
- *Noisy plant and machinery should be strategically positioned on the site to reduce the effects on neighbours where practicable.*
- *The tail gates of trucks must be closed with care and not slammed or allowed to fall closed causing unnecessary noise.*
- *Where appropriate, use acoustic enclosures or noise reduction screens for machinery or noisy work areas.*
- *Noise caused by friction in rollers, trolleys or other machines can be reduced by proper lubrication.*

The Ground Works NVMP provides information regarding the proposed mitigation of the vibratory hammer and power unit. It states the following:

The Bosch power unit will be covered by an acoustic enclosure with one open side that will be rear facing. The vibratory hammer will have an acoustic sleeve that covers the entire hammer and extends

to just below the top of the pile. The Bosch hydraulic power unit will be positioned central to the site and at the maximum practicable extension from the hammer.

The Ground Works NVMP states that the acoustic enclosure and sleeves will use a Soundex Noise Control Curtain. The data sheet for this product provides noise reduction levels as shown in table 4.1 below.

Table 3.1 – Soundex Noise Control Curtain octave noise reduction level

Hz	250	500	1250	2500	4000	5000	Rw value
Reduction (dB)	18.8	22.8	22.5	27.5	31.1	32.9	24

The Ground Works NVMP used a single value noise reduction of 18.8 dB. Based on our experience and table B.4 of BS 5228 – which is also reproduced in NZS 6803, we expect that the actual noise reduction that will be provided by the acoustic enclosures and sleeves will be 14 dB. This is assuming that the opening of the enclosure is facing away from the nearest noise sensitive location.

The Ground Works NVMP states that site hoarding will be erected at site boundaries, and because of this, a 10 dB reduction could be applied when the noise is received at ground levels. As noted in section 1.2, all of the surrounding buildings are multi-storey buildings and therefore the site hoarding will be ineffective at reducing the noise levels when received above the ground level. We have therefore typically not applied any reduction to the noise levels from the site hoarding to upper levels of the surrounding buildings. Where some screening from the site hoardings is expected (for example from a low source such as a plate compactor to a ground floor tenancy), we have allowed for an 8 dB reduction consistent with initial feedback from Styles Group on the Ground Works NVMP.

The Ground Works NVMP provides the following regarding the mitigation of the drilling rig:

The Bauer BG25 will have an acoustic enclosure around the engine with the rear side open. The upper rotary parts that generally create noise will be enclosed with an acoustic sleeve.

As described in section 3.1 above, a single value noise reduction of 14 dB has been used to account for the acoustic enclosure and sleeve.

The Ground Works NVMP outlines the following procedures to monitor the noise during the ground works:

Noise levels at the site will be measured using a calibrated Class 1 sound level meter. Measurements will be undertaken in accordance with NZ 6801:19994 and NZ 6803:19993 and will be recorded on the survey sheet in Table 11 (of the Ground Works NVMP). Noise level measurements will be undertaken at the following times:

- *During the first use of any equipment or activity that generates high noise levels.*
- *Noisy activities or equipment will be sampled at regular intervals (must not exceed two weeks) for the duration of the project to ensure ongoing compliance.*
- *Within two working days of a noise complaint at the location where the perceived noise levels were experienced during normal use of the noisy equipment or activity.*

Noise monitoring will be undertaken during the first use of noisy equipment. The noisy equipment will be sampled to characterise the activity noise levels. Noise levels will also be sampled at a minimum of two locations at the commercial storefronts on Dowling St (Buildings V-Z in Figure 1) when noisy equipment is operating within 10 m of northern site boundary. The noise level data will be used to update the setback distances in Table 7 (of the Ground Works NVMP) and this will be referred to when positioning or operating noisy equipment onsite.

If noise complaints arise, the activity noise levels will be measured at the perceived location as indicated by the complainant during normal use of the noisy equipment. If the noise levels are in excess of the noise criteria, noise mitigation measures will be used to reduce noise levels. The activity noise levels will then be measured again to determine if noise levels are within limits. Noise measurements should be made outside the building approximately 1 m from the wall most exposed to the sound under investigation.

We consider the above measures to be appropriate and consistent with best practice. Our calculations and assessments below are based on the mitigation described.

3.2 Further mitigation

As noted above, only the ground works contractor has been secured, with the main construction contractor still to be appointed. As such, there is only a NVMP available for the ground works at the time of issuing. It is expected that prior to the commencement of the main construction activities that a NVMP will be prepared by the contractor containing the specific mitigation proposed.

We recommend that this NVMP describes similar measures to those in the Ground Works Plan, relating to the use of quiet and properly maintained equipment, strategic positioning of equipment and use of screening where practical. Procedures for noise monitoring and communication with neighbours should also be described.

In the following sections we predict noise levels from anticipated activities on site and discuss noise effects. Where specific mitigation is recommended, we discuss this below.

4.0 EXPECTED NOISE LEVELS AND LIKELY NOISE EFFECTS

Calculations of noise levels from the proposed construction activities are presented in the following sections. When compared to the 2GP construction noise limits, noise levels have been predicted at 1 metre from building facades in accordance with NZS 6803:1999, including a + 2.5 dB adjustment for facade reflections in accordance with the approach anticipated by the Standard. Actual noise levels incident on facades are 2.5 dB lower.

4.1 Sheet piling

We understand that temporary sheet pile retaining structures are required in three areas on the site, as indicated in figure 1.1 above. We also understand that the sheet piles will be removed before the completion of the ground works.

The Ground Works NVMP as prepared by Smith Crane and Construction Ltd confirms that an ICE 23 RF vibratory hammer lifted by a 100t tracked crawler crane with a Bosch hydraulic power unit will be used to install and remove the sheet piles. The Ground Works NVMP states the following sound power levels for the equipment outlined above:

- ICE 23 RF vibratory hammer with Bosch hydraulic power unit – 116 dB L_{WA}
- 100t Tracked crawler crane – 111 dB L_{WA} during mobilisation and 93 dB L_{WA} during lifting operations

We understand that the sound power for the vibratory hammer and power units comes from the manufacturer's equipment documentation.

Considering the above sound powers and mitigation proposed, any works within the following distances of the neighbouring buildings would result in noise levels above 70 dB L_{Aeq} at 1 metre from the façade:

- ICE RF vibratory hammer with Bosch hydraulic power unit – 15 metres
- 100 t tracked crawler crane 61 metres during mobilisation, 9 metres during lifting operations

We understand that the tracked crawler crane will be able to operate outside of the 9 metre distance during lifting operations and as such do not expect that there will be noise levels above 70 dB L_{Aeq} while the vibratory hammer is manoeuvred into position.

The Bosch hydraulic power unit will be able to be positioned in such a way that the noise associated with this aspect of the equipment will be below 70 dB L_{Aeq} , however due to how the vibratory hammer operates, it is not practical to always operate it at least 15 metres from the neighbouring sites, as such at the closest facades of buildings A, C, D, F, and G (shown in table 2.1). The 15 metre setback above has been calculated assuming an even split between the sound powers of the vibratory hammer and power unit. We have also assumed that the power unit is located a further 20 metres into the site and both the hammer and power unit are screened as described in section 3.0.

Based on figure 1.1, it appears that there will be sheet piling right up to the site boundary with Building A which will result in noise levels of over 90 dB L_{Aeq} at the building façade of tenancies 0.7 (ground floor office space) and 1.2 (first floor photography studio). This building has a brick exterior and has windows on the ground, first, and second floors approximately 9 metres back from the front of the building. Taking these into account we have the following comments regarding the noise that could be experienced within these tenancies of the building:

- While we do not know the specifics of the brick façade construction, a 70 mm brick veneer alone would provide a minimum of a 30 dB reduction across the octave bands, and internal linings are likely to improve this further.
- It appears that the closest window to where the sheet piling is proposed is located on the Dowling Street façade and is located approximately 500 mm from the corner of the building. We estimate that this window will provide a 20 dB reduction when closed.

Worst case noise levels when the vibratory hammer is at its closest point, could therefore be in the order of 74 - 77 dB L_{Aeq} inside these two tenancies which have windows close to where the piling is occurring (on Dowling Street).

These noise levels are expected to occur at this level for less than one day, with external noise levels below 80 dB L_{Aeq} expected when the sheet piling moves five metres away from this façade. Sheet piling along the Dowling Street boundary is expected to occur for less than two days.

For Buildings C, D, F, and G, noise levels of up to 83 dB L_{Aeq} could be experienced on the closest façades. With closed windows, internal noise levels of up to 63 dB L_{Aeq} could be experienced in the adjoining spaces within the buildings. Worst case external levels above 80 dB L_{Aeq} are only expected to be present for relatively brief durations at each building façade, when sheet piling is at the closest point. At Building C, noise above 80 dB L_{Aeq} will be present for less than a day and only on the closest parts of the façade. At the closest facades of Building D, noise levels above 80 dB L_{Aeq} could be received for three days. At Buildings F and G noise at this level is expected for less than two days on the closest façades. At Building G, noise at these levels will only be received near the southern end of the eastern façade. The total duration of sheet piling along Robson Alley is seven days.

Since noise levels are likely to exceed an internal noise level of 55 - 60 dB L_{Aeq} in some spaces of these buildings when sheet piling occurs in the closest locations this will likely be disruptive for typical office type activities. We recommend that the occupants of these buildings are given sufficient notification before the sheet piling begins and kept updated of the likely timing and duration of this activity. Given the short duration of this activity it may be possible to avoid times of particular sensitivity to nearby building occupants (for example start closest locations early in the day before buildings are occupied).

Given the extent of façades and short duration of this portion of the works it is unlikely to be practical to modify receiving buildings to reduce internal noise levels. However, consultation with neighbours may identify any discrete spaces with particular noise sensitivity, where it may be practical to install Soundex Noise Control curtains over windows.