

Demolition of the Heritage listed Old Greymouth Courthouse (HH68)

Ministry of Justice

8 Guinness Street, Greymouth

Resource Consent Application to Grey District Council

11 December 2025



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Project Number: J17587

Document Status: Final

Date: 11 December 2025

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Contents

1.	Introduction	1
1.1	Project Summary	1
1.2	Site Background	1
1.3	Communications with Grey District Council	2
1.4	Pre-application consultation / discussions	3
1.5	Efforts to sell the building	3
1.6	Engineering Summary	4
1.8	QS Summary	5
2.	Site Description.....	5
2.1	Application Site	5
2.2	Surrounding Area	5
3.	Proposal Description	6
4.	District Plan Assessment	6
4.1	Operative Grey District Plan (District Plan)	6
4.2	Decision version Te Tai o Poutini Plan (TTPP)	7
4.3	Activity Status	10
5.	Statutory Framework	10
5.1	Part 2 of the RMA	10
5.2	Section 104 RMA	11
5.3	Sections 104B and 108 of the RMA	11
5.4	Section 104D(1)(b) Threshold Test	11
5.5	Section 106 RMA	11
6.	Assessment of Effects on the Environment.....	12
6.1	Heritage Effects.....	12
6.2	Demolition Effects / Earthworks	16
6.3	Cultural Effects	17
6.4	National Environmental Standard relating to soil contamination (NES-CS).....	17
6.5	Positive effects	18
7.	Objectives and Policies	18
7.1	Grey District Plan	18
7.2	Decision version Te Tai o Poutini Plan	21
8.	Part 2 of the Act.....	23
9.	Consultation/Notification.....	25
10.	Offered Conditions	25
11.	Conclusion	27

Appendices

- Appendix 1** Record of Title
- Appendix 2** Heritage Impact Assessment - Fulton Ross Architects
- Appendix 3** Engineering assessments – WSP
- Appendix 4** Correspondence received from Mawhera Incorporated
- Appendix 5** Cost Report- AECOM

APPLICATION FOR RESOURCE CONSENT SECTION 88 OF THE RESOURCE MANAGEMENT ACT 1991

To: the Grey District Council

1. The Ministry of Justice applies for land use consent:
To demolish the scheduled heritage item – Old Greymouth Courthouse (HH68) and remediate the contaminated site.
2. The site at which the proposed activity is to occur is as follows:
Address: 8 Guinness Street, Greymouth
Legal Description: Lot 4 DP 3250 (RT WS8B/702), Westland Land District
3. The full name and address of the owner of the site to which the application relates is as follows:
**The Mawhera Incorporation
C/- Ashton Wheelans and Hogan
Lvl 2, 83 Victoria Street, Christchurch
PO Box 13042, Christchurch 8141**
4. The site is associated with pre-1900 activities and therefore an Archaeological Authority (AA) from Heritage New Zealand Pouhere Taonga will be required for works that disturb the ground. Discussions have been held with Heritage New Zealand, and the necessary AA will be applied for at the same time as the resource consent application is being processed.
5. There are no other activities that are part of the proposal to which this application relates.
6. If an activity or industry on the Hazardous Activities and Industries List (HAIL) is, or has occurred, on the site, the National Environmental Standard for Assessing and Managing Contaminants in Soils to Protect Human Health (NES CS) applies to proposed soil disturbance and/or land development activities. There are no HAIL sites identified on this property, however remediation works undertaken in November 2024 included the painting/sealing of asbestos along the frontage of the building. As the area to be excavated is currently covered with an existing building, subsurface investigation is currently not possible. In the absence of an investigation (i.e. DSI), the consent therefore needs to progress down the discretionary activity pathway (pursuant to clause 11 of the NES CS). Further assessment against the NES CS is provided in Section 6.4 below.
7. Attached is an assessment of the proposed activity's effect on the environment that:
 - a. includes the information required by clause 6 of Schedule 4 of the Resource Management Act 1991; and
 - b. addresses the matters specified in clause 7 of Schedule 4 of the Resource Management Act 1991; and
 - c. includes such detail as corresponds with the scale and significance of the effects that the activity may have on the environment.
8. Attached is an assessment of the proposed activity against the matters set out in Part 2 of the Resource Management Act 1991.

9. Attached is an assessment of the proposed activity against any relevant provisions of a document referred to in section 104(1)(b) of the Resource Management Act 1991, including the information required by clause 2(2) of Schedule 4 of that Act.
10. The Council's initial invoice for processing the resource consent application can be charged to directly to the Ministry referencing P01623.

A handwritten signature in blue ink, appearing to read 'T. Joll'.

Tim Joll (Consultant Planner)
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On behalf of the **Ministry of Justice**

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1. Introduction

1.1 Project Summary

The Ministry of Justice (**the Ministry**) applies for resource consent (land use) to demolish the heritage listed former Greymouth Courthouse (**former courthouse**) at 8 Guinness Street. A copy of the Record of Title is contained in **Appendix 1**. The applicant also applies for resource consent to remediate the contaminated site.

The Ministry is requesting the application be publicly notified in accordance with section 95A(3)(a) of the RMA.

1.2 Site Background

The former Courthouse was built in 1912 and designed by Architect John Cambell. It operated until 2007 when the replacement Greymouth Courthouse opened.

It is a protected Heritage item, scheduled in the operative Grey District Plan (**District Plan**) as a Category 1 heritage item (item #5016). It is contained in Schedule 1A of the decision version Te Tai o Poutine Plan (**TTPP**) as a Category 1 heritage item (item number #HH68). The extent of the heritage listing in the proposed TTPP includes the land described as Lot 4 DP 3250 (RT WS8B/702), Westland Land District and the building known as the Courthouse (Former) thereon.

The former Courthouse is scheduled on the Heritage New Zealand Pouhere Taonga (HNZPT) list as a Category 1 building (item #5016).

The following summary of the heritage significance of the building is taken from Heritage New Zealand's List¹. Further details of the heritage significance of the building are provided in the Heritage Impact Assessment prepared by William Fulton of Fulton Ross Architects, which is contained in **Appendix 2**.

Historical Significance or Value

The Greymouth Courthouse was built during a major period of government construction in New Zealand. This building, and the nearby Post Office, reflect the state of development attained by Greymouth in the first forty-five years of the township's existence, and of the regional importance of the West Coast.

Physical Significance – Architectural Quality

John Campbell established the Imperial Baroque style as the style of government architecture in New Zealand in the first two decades of this century. The Greymouth Courthouse was one of the last provincial buildings to be designed by the architect (Ibid, p113), and it illustrates the more restrained character of his later work. The building 'has the familiar open-bed pediments of Campbell's work but little additional ornamentation' (Ibid.) and it may therefore be compared with the Masterton Courthouse of the same date.

Townscape/Landscape Value:

¹ <https://www.heritage.org.nz/list-details/5016/Listing>

Standing on Guinness Street in the town centre, the courthouse makes a bold contribution to the streetscape of Greymouth.

The applicant owns the subject building; however the land itself is owned by the Mawhera Incorporation, and the land is leased by the Ministry. The lease commenced in July 1995 and is for a term of 42 years (until 2037), with a further right of renewal for a further term of 63 years.

1.3 Communications with Grey District Council

In July 2012, the Council wrote to the Ministry informing them that the building had been identified as a potentially earthquake prone building. The Council requested that the Ministry supply the Council with an Initial Evaluation Procedure (IEP) or Detailed Assessment from a Chartered Professional Engineer to ascertain whether the building was earthquake prone within 12 months of the date of the correspondence.

In June 2013, the Council wrote to the Ministry informing them that the Council was implementing a new Earthquake prone, Dangerous and Insanitary Building Policy and advising the Ministry they had until 31 December 2016 to submit a Detailed Engineering Evaluation (DEE). The Ministry was also informed that the Council could no longer accept IEP after 31 July 2013.

In March 2016, the Council wrote to the Ministry informing them that the building had been identified as a potentially earthquake prone building. The Council requested that the Ministry supply the Council with a DEE confirming whether or not the building achieved a New Building Standard (NBS) of greater than 33%.

An engineering assessment produced by WSP / Opus (WSP) in 2019, identified considerable structural deterioration and assessed the overall building as having an NBS Rating of 15%, with only the diaphragms having a NBS rating above 34% (at 50%), and the exterior facades having a NBS at 15%- 20%. A copy of this report is contained in **Appendix 3**.

On 4 December 2024, the Ministry received from the Grey District Council (the Council), a Section 124(2)(c) Building Notice (**the notice**) which deems the building as *Dangerous and Insanitary*. Actions required in the notice are:

- Mitigate the risks posed to passersby, by the friable asbestos present at the front of the building, before **15 December 2024**; and
- Repair the building such that it is weathertight and that the structure is no longer dangerous* by **26 April 2026²**; or
- Demolish the building, before **26 April 2026³**

Additional security fencing was installed around the building in March 2025 in response to observable further deterioration at the rear of the building as witnessed by officers of MoJ, Heritage New Zealand and the Council's Team during a site visit on 14 March 2025 to the building.

Ongoing discussions have been held between the Council and the Ministry to ensure the Council is aware of the reasons why the timeframe to repair or demolish the building has not been met and to request extensions to enable the resource consent application to demolish the building to be comprehensively submitted and assessed.

² This date was extended from 2 May 2025 on 11 July 2025 by GDC.

³ This date was extended from 2 May 2025 on 11 July 2025 by GDC

1.4 Pre-application consultation / discussions

Grey District Council

On 14 March 2025 the Applicant met with Kate McKenzie, a Planning Consultant engaged by Grey District Council to discuss the proposal. There was a high degree of agreeance on the technical information required to support the application; the activity status; consenting process, including the applicant seeking to voluntarily notify the application. Ms McKenzie also visited the site and exterior and interior of the building.

Heritage New Zealand Pouhere Taonga (HNZPT)

On 14 March 2025 the Applicant also met with representatives for HNZPT (Arlene Baird and Dr Christine Whybrew) at the site. The parties entered the building. It was agreed to supply a copy of the application prior to lodgement. The bowing out of the rear western wall was also discussed, along with the provision of additional security measures to restrict access around the perimeter of the building.

A follow up meeting was held with the Applicant's planner, heritage expert and representatives for HNZPT (Arlene Baird, Dr Christine Whybrew and Mitzie Bisnar) on 9 October 2025.

Mawhera Incorporation (Mawhera)

On 6 March 2025, the applicant contacted the Proprietors of Mawhera and advised them of the steps they were taken in response to the Section 124 notice issued by Grey District Council.

On 14 March 2025 the Applicant meet with representatives for Mawhera (Marie-Louise Tacon and David Mason) to discuss the proposal, and for the representatives to access the interior of the building. It was agreed to supply a copy of the application prior to lodgement.

On 21 November 2025 confirmation was received from Mawhera that they are supportive of a full site demolition providing them with a clear site, a copy of this communication is contained in **Appendix 4**.

Local Historian

The Ministry has communicated with Ms Traves a local historian based in Greymouth.

Ms Traves provided useful information on the materiality of the buildings including advising that *"the base stone of the former courthouse is the only dressed building stone left in any building, from the Dobson Quarry, on the West Coast"*. If practicable, Ms Traves would like to see *"if a couple of pieces of the base stone can be taken back out to Dobson to the roadside Heritage Park there"*. A condition of consent is offered in Section 10.

Transpower

The Ministry has caged the transformer on the site and have spoken with Transpower to let them know the risks and the work they are doing to address the risk, which includes the preparation of this application. They are fully aware of the current state of the building.

1.5 Efforts to sell the building

Over the past 18 years, the applicant has made numerous attempts to sell the building, including re-offering the building to Ngai Tahu in 2007, Mawhera in 2008, and offering it for sale to the public

for \$1 since 2019. The efforts to sell the building have been reported in nationwide media, including Stuff articles dating from 1 March 2019⁴.

1.6 Engineering Summary

WSP carried out a Detailed Assessment of the building in 2019. The WSP assessment (2019) is contained in **Appendix 3**. It identifies the following of relevance:

- The building has not be occupied, or had a functional use since 2007.
- The building is in a considerably deteriorated condition, including water damage corroding external structure and brick work, and interior vandalism, despite concerted efforts and expenditure by the MoJ in terms of preventing intruders and restricting water ingress.
- Cracking is visible along the top edge of the western and north internal walls.
- Brick veneer along the west wall is at point of failure.
- Earthquake NBS Rating is at 15%, with only the diaphragms having a NBS rating above 34% (at 50%). Exterior facades at 15% - 20%.
- Previous alterations and strengthening works are discussed (Section 3 of this report).
- A concept strengthening scheme (34% or 67% NBS) is provided (Section 10).

In 2024, a further structural inspection was carried out by WSP and an additional conceptual strengthening option provided for a 100% NBS (IL2) solution to assist the Ministry with decision-making on the building's future. A copy of this report is also contained in **Appendix 3**. It identifies the following of relevance:

- Exterior Façade - The façade veneer bricks and mortar are in very poor condition. There are extensive cracks in the veneer in some areas, and the brick ties have corroded. Some bricks are in poor condition, and mortar is also in poor condition. Visible bowing of the veneer walls on the western side of the building has increased by approximately 50 mm since the last visit in 2019. The western wall external veneer is nearing the point of out-of-plane failure due to its deteriorated state.
- Window Lintel Beams - The lintel beams in the external brick veneer have rotated outwards and cracked around the edges of the beam. The visible rotation is most likely caused by the brick veneer bowing outwards under pressure from corrosive scaling of ties. No cracks are visible on the lintel face.
- Interior Perimeter Walls - Significant cracking is present along the top edge of the internal north and west perimeter walls. Cracks are also present along the top edge of the partition walls perpendicular to the western wall.
- Courtroom Area Roof- It was observed that the condition of the Courtroom Area roof structure remains satisfactory, with no obvious structural deterioration since the previous inspection.
- Foundations - No additional issues were identified with regards to the building's foundations.

⁴ <https://www.stuff.co.nz/business/property/110971304/historic-excourthouse-for-sale-on-west-coast>

WSP prepared details of a possible façade retention option on 30 May 2025.

1.8 QS Summary

The Ministry has engaged AECOM to prepare cost estimates for three potential remediation options, to inform the decision on the future of the building. A copy of the estimates and associated report are contained in **Appendix 5**. The estimates have been based on the structural condition and seismic assessment reports prepared by WSP. The following is a summary of the ‘expected estimates’:

- Building reinstatement and strengthening works (67% NBS) - \$5,883,000
- Building reinstatement and strengthening works (100% NBS) - \$6,833,000
- Retain heritage facade with new commercial building connected - \$4,500,000

The costings have been based on the remediation of the deficiencies indicated in the structural condition reports contained in **Appendix 3**, on the basis of returning the structure and fabric to the prescribed NBS level. These costings do not provide for all the work that would be required to fit out the building and return it to a commercially marketable condition.

The costs summarised above also exclude land remediation and make limited allowances for hazardous material removal, handling, disposal, and certification as details of land remediation, ground improvement works and hazardous materials will not be known until the building is removed and the necessary testing is undertaken.

The likelihood is that the total costs will be at the higher end of the range provided in the table on Page 5 of the attached costings report, which are:

- Building reinstatement and strengthening works (67% NBS) - \$8,825,900
- Building reinstatement and strengthening works (100% NBS) - \$10,246,500
- Retain heritage facade with new commercial building connected - \$6,751,000

2. Site Description

2.1 Application Site

The 1,370m² application site is located at 8 Guinness Street, Greymouth and occupies a mid-block position. The site is zoned for commercial purposes in both the District Plan and TTPP.

The former courthouse is a single-storey structure with a floor plan of approximately 650m². As noted in the Heritage Assessment contained in **Appendix 2**, the building has deteriorated to its current condition. The interior has suffered damage from intruders and the ingress of moisture. There are signs of mold and vandalism, despite endeavors from the Ministry to avoid breaking and entry into the building.

The main Guinness Street facade is fenced off with resultant vegetation growth and degradation of the painted plaster surface.

2.2 Surrounding Area

The surrounding area forms part of the Greymouth Town Centre. The surrounding area is characterised by a variety of commercial activities contained within a mixture of single and two-storey buildings.

Immediately to the west of the application site is the heritage scheduled 'Commercial Building'⁵. This is a single-storeyed office brick building with a corrugated steel hipped roof. A carparking area and ROW adjoins the eastern boundary of the site.

Time restricted car parking (60 minute restriction) is available along the Guinness Street frontage.

3. Proposal Description

As noted above, the Ministry applies for resource consent to demolish the heritage listed former Greymouth Courthouse building. The cleared site of the former Courthouse will be finished in grass or other treatment agreed with the land owner – Mawhera.

To remove the existing brick strip foundations, excavation to a depth of 0.4m is anticipated. Conservatory, it is also anticipated that up to 260m³ of belowground material may need to be removed as part of the proposed works.

Demolition activities will be managed to ensure any environmental effects on surrounding properties and the environment are avoided or mitigated. Management methods will be detailed in a Demolition Management Plan to be prepared by the selected contractors, and certified by the Council, prior to any work commencing. These will include management measures for site safety, traffic management, noise and vibration management, erosion and sediment control, and the management of any soil contamination (if applicable). Separate conditions are discussed in more detail, in Section 10 below regarding the salvage of heritage fabric where appropriate and the provision of a photographic record whilst the works occur.

4. District Plan Assessment

4.1 Operative Grey District Plan (District Plan)

Zoning

The site is within the Commercial zone.

Overlays and Notations

- Heritage Item - Category 1 heritage item (item #5016).
- Core Commercial Area overlay.

Compliance Assessment

The following table assesses the proposal against the relevant provisions in the District Plan and identifies non-compliance matters. It is noted that the proposal does not trigger any non-compliances with the Commercial Zone activity or built form standards.

⁵ Heritage New Zealand List number 5059 (Category 2).
Heritage Area HH78 Commercial Building) Schedule 1A TTPP

Rules	Assessment	Rule Status
Appendix 6 – Heritage Rules		
(iv) Demolition The demolition or removal of a listed heritage item or item in a historic area in Schedule 1 is a discretionary activity.	The proposal involves the demolition of the Category 1 scheduled former Courthouse.	Discretionary
Chapter 20 Commercial and Industrial Environmental Areas		
14. Noise (i) Any activity shall be conducted such that the following noise levels are not exceeded within the boundary of any site...: (a) Commercial Monday to Sunday 0700 - 2200 hrs 60dBA L10 2200 - 0700 hrs 50dBA L10 (Note: Any activity sensitive to noise must be designed to take into account higher night-time noise levels. Refer also to rule 20.7.14(ii)) • 75 dBA Lmax all days between 2200 hrs and 0700 hrs	The proposed demolition activities will comply with the noise standards in the Operative Plan.	Complies

4.2 Decision version Te Tai o Poutini Plan (TTPP)

Zoning

The application site is zoned Town Centre in the TTPP.

Overlays and Notations

- Heritage Area – Reference HH68 Courthouse (Former),
- Sites of Significance to Māori - SASM62 (Māwhera Native Reserve) and SASM57 (Māwhera Gardens)
- Pounamu Management Area
- Main Street Frontage Control,
- Greymouth Town Centre Precinct

Compliance Assessment

The following table assesses the proposal against the relevant provisions of the decision version (as dated 10 October 2025) of the TTPP and identifies non-compliance matters.

Rules	Assessment	Rule Status
Historic Heritage - Ngā Tuku Ihotanga		
<i>HH – R10</i>		

The demolition or destruction of a Historic Heritage item in Schedule One.	The proposal involves the demolition of the former Courthouse which is a listed heritage item (HH68) in Schedule 1.	Non-complying
Sites and Areas of Significance to Māori - Ngā Wāhi Tāpua ki te Māori		
<i>SASM – R3 Demolition, removal of, or alteration to a structure on Sites and Areas of Significance to Māori listed within Table SASM – T3</i> Permitted where: - In relation to the Sites and Areas of Significance to Māori listed in Table SASM – T3: <i>The activity does not occur except where the activity has been certified by an authorised representative of the relevant Poutini Ngāi Tahu rūnanga in accordance with Schedule Three (SCHED 3A) and this certification is provided to the relevant District Council at least 10 working days prior to the activity commencing; and</i> <i>No land disturbance is involved; and</i> <i>There is no change to the size or location of the structures foundation or building footprint occupied by the structure.</i>	The site is within SASM62, which is not identified in 'Table SASM – T3.' of the Rule. The proposed works are therefore permitted under this rule. The applicant has undertaken pre-application discussions with Mawhera who have provided their support for the proposal. Pre-application discussions have not been held with Te Rūnanga o Ngāti Waewae.	Permitted
Earthworks – Te Huke Whenua		
<i>EW – R1 Earthworks General Standards</i> - Earthworks must not exceed a maximum depth or height above ground level of 1.5m measured vertically within 1.5m of a boundary. - All imported fill must consist of cleanfill material. - Erosion and sediment control measures must be designed, installed and maintained until earthworks are completed to avoid sediment run-off from earthworks activities entering a Council reticulated network or into waterbodies	All earthworks will comply with the permitted earthworks standards in EW – R1.	Permitted

<i>EW – R2 Earthworks – All Zones</i> Activity Status Permitted where: 1. All standards in Rule EW – R1 are complied with; and 2. These earthworks are associated with the construction of an approved building platform and access...	All earthworks will comply with the permitted earthworks standards in EW – R1. As the proposed works are for demolition and remediation only, there is no approved building platform and none of the other standards in EW – R2 2. are applicable. Out of an abundance of consent is sought for a non-compliance with this standard.	Permitted Restricted Discretionary EW – R7
Earthworks - Ngā Oro		
<i>Noise – R1 General Standards</i> All activities must comply with the following standards. 2. The noise from any construction work activity must be measured and assessed in accordance with the requirements of New Zealand Standard NZS6803:1999 Acoustics – Construction noise. Construction work is defined in New Zealand Standard NZS 6803:1999 Acoustics – Construction noise.	Noise from all works measured and assessed in accordance with the requirements of New Zealand Standard NZS6803:1999 Acoustics – Construction noise.	Permitted
<i>Noise – R5 Emission of noise for activities not provided for by Noise – R2, R4, R6 or R7</i> Noise from any activity shall not exceed the following noise limits at any point at or within the boundary of any site within any of the following zones: 3. The maximum noise from any activity shall not exceed the following noise limits at any point at or within the boundary of any site within any of the following zones: CMUZ Commercial and Mixed Use Zone	Noise from all works will comply with these standards.	Permitted

Daytime (Monday– Friday) 7:00am– 10:00pm	Saturday, Sundays and Public Holidays 7:00 am – 10:00pm	Night- time 10:00pm– 7:00am		
60 dB LAeq	55 dB LAeq	50 dB LAeq 75 dB LAFmax		

4.3 Activity Status

The proposal is a **discretionary activity** under the operative Grey District Plan, and a **non-complying activity** under the decision version of the Te Tai o Poutini Plan.

5. Statutory Framework

5.1 Part 2 of the RMA

Part 2 of the RMA sets out the purpose and principles of the Act, being “to promote the sustainable management of natural and physical resources” which is defined to mean:

managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural wellbeing and for their health and safety while –

- (a) *Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
- (b) *Safeguarding the life-supporting capacity of air, water, soil and ecosystems; and*
- (c) *Avoiding, remedying or mitigating any adverse effects of activities on the environment.*

This application has been prepared after the Court of Appeal’s consideration of the High Court Decision of *R J Davidson Family Trust v Marlborough District Council* [2017] NZHC 52 (Davidson Decision). The Court of Appeal’s decision means that recourse to Part 2 of the RMA is appropriate, particularly in circumstances where the relevant higher order policy documents are unclear or outdated in addressing the matters pertinent to the application.

Section 6 of the RMA sets out matters of national importance. Of these, the key matter of relevance is S6(f) the ‘*protection of historic heritage from inappropriate subdivision, use and development*’.

Section 7 of the RMA requires particular regard to be had to ‘other matters.’ Of relevance to this application are:

- (b) *the efficient use and development of natural and physical resources;*
- (c) *the maintenance and enhancement of amenity values; and*
- (f) *maintenance and enhancement of the quality of the environment;*

Section 8 requires the principles of the Treaty of Waitangi to be taken into account.

An assessment of the proposal against Part 2 is provided in Section 8 below.

In summary, it is considered that the demolition of former Courthouse is not "inappropriate" in terms of the protection of historic heritage, and would also better achieve the purpose of the Act than the alternative of retaining the building. The below assessment regarding 'inappropriate' is informed by the District Plan heritage policy framework.

5.2 Section 104 RMA

Section 104 of the RMA provides the statutory requirements for the assessment of the application and sets out those matters that the Council must have regard to when considering the application. Subject to Part 2 of the RMA, section 104(1), where relevant to the application, requires an assessment of:

- (a) Any actual or potential effects on the environment of allowing the activity;*
- (ab) Any measures 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; and*
- (b) Any relevant provisions of any National Environmental Standard, other regulations, National Policy Statement, New Zealand Coastal Policy Statement, Regional Policy Statements, plans or proposed plans; and*
- (c) Any other matter that the Council considers relevant and reasonably necessary to determine the application.*

The effects associated with the proposal, have been assessed in **Section 6** of this application (section 104(1)(a)). Based on the assessment of effects, offsetting or compensation of adverse effects is not required or needed (section 104(ab)). The relevant statutory and regulatory planning documents are identified and assessed in **Sections 4** and **7** of this application. No other matters are considered relevant or reasonably necessary to determine the application (section 104(c)).

5.3 Sections 104B and 108 of the RMA

Under section 104(b), the consent authority may grant or refuse an application for a non-complying activity. However, if it grants the application, the consent authority may impose conditions under section 108.

5.4 Section 104D(1)(b) Threshold Test

Section 104D of the Act directs that a consent authority may grant a resource consent for a non-complying activity only if it is satisfied that either the adverse effects of the activity on the environment (other than any effect to which section 104(3)(a)(ii) applies) will be minor; or the application is for an activity that will not be contrary to the objectives and policies of both the relevant plan and the relevant proposed plan, if there is both a plan and a proposed plan in respect of the activity (section 104D(1)(b)(iii)). A detailed assessment of the proposal against the requirements of Section 104D(1)(b) is contained in Section 8 below.

5.5 Section 106 RMA

Under s.106A the Council may refuse to grant a land use consent or impose conditions, if there is significant risk from natural hazards. The application site is not located in any District Plan natural hazard overlays and the proposed development is therefore not considered to be at risk from natural hazards.

6. Assessment of Effects on the Environment

In accordance with the requirements of section 88 and the Fourth Schedule of the RMA, this section provides an assessment of the actual and potential environmental effects of the proposal relative to its scale and significance. The key matters of relevance are:

- Heritage effects
- Demolition effects and earthworks
- Cultural effects
- NES-CS
- Positive effects

6.1 Heritage Effects

Section 6 of the Resource Management Act specifies matters of national importance. Relevantly, it states that: *“in achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance....*

(f) the protection of historic heritage from inappropriate subdivision, use, and development”.

Section 6 does not in itself require that all heritage buildings be preserved, and the degree of protection offered to them will depend on the relative qualities of the particular building or place as reflected in the District Plan. The former Courthouse is scheduled as a Category 1 heritage item (item #5016).

The assessment on heritage effects therefore rests on a determination as to whether the proposed demolition is ‘inappropriate’ (as informed by the Objectives and Policies of the District Plan and TTPP which are assessed below).

Such a determination in this instance involves consideration of:

- The heritage values of the building⁶;
- The current building condition⁷;
- The level of intrusiveness of works and the associated effects of such works on heritage values⁸;
- The costs of such works⁹;
- Functional need for a Courthouse and consideration of reuse options and façade retention¹⁰.

As discussed in further detail in Section 7 below, at an objective and policy level the District Plan and TTPP only contemplate demolition, on a case-by-case basis if it can be demonstrated that:

⁶ TTPP Policy HH-P1, and HH-P3

⁷ TTPP Policy HH-P7(a)

⁸ TTPP Policy HH-P7(a) and (c)

⁹ TTPP Policy HH-P7(c)

¹⁰ TTPP Policy HH-P7(d)

- a. *The extent of the work required to retain the heritage items is of such a scale that the heritage values and integrity of the heritage item would be significantly compromised;*
- b. *The item poses a significant risk to public safety and there is no practicable alternative to make the site safe;*
- c. *The costs to retain or repair the heritage item would be unreasonable;*
- d. *All other viable alternatives, including relocation and repositioning, have been fully considered.*

The heritage values of the building

A heritage assessment prepared by William Fulton from Fulton Ross Architects is attached as **Appendix 2**. The heritage assessment summarises the history of the building, the heritage significance of the building, the building's current condition and the implications of any repairs and strengthening works.

It is not disputed that the building contains and contributes heritage values, with these values reflected in the fact that the building is listed as a Category 1 heritage item in the District Plan and that classification retained in the TTPP. The applicant has undertaken a robust assessment of the options available for the repair, strengthening, and reuse of the former Courthouse.

The process of considering reuse and retention options has been undertaken as follows:

- 1) Detailed damage evaluations were undertaken by WSP, which included a Condition Assessment of the current state of the structure and a Detailed Seismic Assessment;
- 2) WSP have prepared conceptual structural reinstatement options required to achieve 67% and 100% NBS, and the extent to which such works would remove residual original building fabric of the former Courthouse. Retention of the front façade either on its own or as part of a new building is also considered;
- 3) The cost estimates for the various repair and strengthening options have been costed by a quantity surveying, AECOM, with the cost estimates set out in **Appendix 5**.
- 4) The Ministry has considered whether there is any potential reuse scenarios;
- 5) The Ministry has continued to provide opportunities for the sale of the building to any interested parties.
- 6) The findings of the above reports are then considered in the Heritage Impact Assessment attached as **Appendix 2**.

Building condition / Engineering assessment

An assessment of the building structural condition was carried out in 2019 in conjunction with a Detailed Seismic Assessment (DSA). This work found the building to be in a poor state, and the DSA assessed the building capacity to be <34%NBS(IL2). A conceptual strengthening option was presented within this report to achieve 67%NBS(IL2).

In 2024, a further structural inspection was carried out and an additional conceptual strengthening option provided for a 100%NBS (IL2) solution to assist the Ministry with decision-making on the building's future.

The assessment notes:

“some discernible deterioration in the condition, notably the west elevation has brick veneer that is bowing significantly, opening up a gap to the structural wall behind which has increased since the last visit in 2019.

Due to this outward deflection, this veneer is considered to have an elevated risk of locally falling outward during either a storm event or minor earthquake. It is recommended that access is restricted in this area in the short term, if it is not already restricted. No further immediate action is considered necessary, as the building is unoccupied. The distance to the boundary is similar to the height of the wall, and so any falling bricks are expected to remain within the property. There is a transformer surrounded by a wire fence which could possibly be affected if the veneer fell outward. Regular monitoring is recommended.

A strengthening concept to 100%NBS (IL2) has been identified. This concept requires replacement of the non-structural internal walls with lightweight framing and strengthening of the remaining brick walls both internally and externally using reinforced concrete. Additional foundations are also proposed for the remaining brick walls to control settlement. Roof connections and diaphragms are also proposed and reinstatement of key internal features, such as the chimneys, in a strengthened form is proposed.

In essence, the engineering report confirms that extensive and intrusive works would be necessary in order to bring the building up to code, and therefore (a) ensure the appropriate protection of community health and safety in terms of an on-going occupation of the building, and (b) to re-establish a functional and ongoing use. The Heritage Assessment further identifies that these works would result in significant reduction to the extent of original heritage fabric of the former Courthouse.

The level of intrusiveness of repair works and the associated effects of such works on heritage values

The attached Heritage Assessment considers this matter and notes:

*The building behind the street facade both inside and outside has been compromised by modification, vandalism, moisture ingress and structural degradation. This will be further compromised by the proposed WSP strengthening proposal, to the point that **we would describe its remaining heritage value as being significantly compromised** [planner's emphasis].*

*We could support the facade retention proposal on the basis that it would continue to contribute to the existing streetscape. We acknowledge that **the heritage significance of the retained facade would be greatly reduced compared to the time when it was a fully operating Court facility** [my emphasis] and the success of the proposed facade retention would depend on the scale and form of new development that might occur behind it. However, I believe the existing facade with a well-considered development behind, would still warrant protection under the District Plan.*

The facade retention proposal requires a willing buyer, developer and landowner, none of which seem to be available or interested.

Costs to repair the building / Quantity surveying

As discussed in further detail in Section 7 below, at an objective and policy level the decision version of the TTPP considers whether “the costs to retain or repair the heritage item would be unreasonable” and the “*extent of the work required to retain the heritage items*”. Detailed costings have been prepared which consider three potential remediation / strengthening options. These costs are summarised in Section 1.8 above and range between \$4.5 million and \$6.8 million. As discussed in the section below, the Ministry has no need for the building. It is therefore considered that costs to retain or repair the heritage item are unreasonable.

Functional need for a Courthouse and consideration of reuse options and façade retention

The Ministry has been operating from the replacement Courthouse since 2007, and therefore the proposal site has been unused for the last eighteen (18) years.

Adaptive reuse can be a viable mechanism for ensuring the future viability of at-risk heritage items where there are opportunities for reuse, a willing occupier and a generally resilient building. In the case of the former Courthouse however, the condition of the building and costs to repair and strengthen the building, combined with challenges associated with length of the lease remaining means that the building has no viable repurposing options that would meet the needs of the Ministry.

As outlined above, the Ministry has made several attempts since 2007 to sell the building, including re-offering the building to Ngai Tahu in 2007, and offering it for sale to the wider public for \$1 since 2019. The lack of any viable interest in the building also illustrates the lack of reuse options available for the building.

Furthermore, as noted in the attached Heritage Assessment, the *“relocation and repositioning of the building is obviously not appropriate”*.

It is considered that all plausible alternatives, including relocation and repositioning, have been fully considered and are not viable.

Planning Conclusions on Heritage Matters

As noted earlier, Section 6 of the RMA requires decision makers to protect historic heritage from “..... *inappropriate subdivision, use and development*”, not development per se. The assessment then turns on what is ‘inappropriate’, with reference to the objectives and policies of the District Plan (discussed in more detail below), and the wider sustainable management outcomes sought in section 5 of the RMA.

Under the respective statutory framework, including the TTTP, including HH-P7 there is a statutory requirement to consider demolition and destruction of a historic heritage item where:

- (a) practical alternatives have been explored and retention is not ‘viable’; or
- (b) where the necessary works to ensure retention are so intrusive as to significantly diminish heritage values; or
- (c) the costs of retention or repair are unreasonable; or
- (d) the Building poses a significant risk to public safety public and neighbouring landowners, and no practicable alternative to retain public safety exist; or where
- (e) an ongoing, financially plausible use is not available to ensure the long-term protection and retention of heritage item.

The submitted documentation confirms the current state and condition of the building, the lack of sustainable and functioning use and occupation by the Ministry for the building, and the lack of plausible options for conversion or demand to facilitate different uses.

Furthermore, the works necessary to enable the ongoing use of the former Courthouse are both extensive and range between \$4.5 to \$6.8 million, such that repair and reuse is not considered to be financially plausible. These factors can be considered, in terms of the appropriateness of the works, through an assessment against the criteria in the TTTP, alongside the building’s heritage value. Noting this, it is considered that the future environment scenario is not a choice of demolition and replacement versus repair and reuse, but rather demolition versus ongoing vacancy. Noting at the minimum the Building Notice requires repairing the building

such that it is weathertight and that the structure is no longer dangerous, which is unreasonable given the lack of viable use.

In summary, demolition of the former Courthouse is considered to be appropriate for the following reasons:

- 1) The building is earthquake prone and is subject to a Dangerous Building Notice. As such it cannot be occupied without significant repair and strengthening works. The building has remained unused since 2007.
- 2) The 124(2)(c) Building Notice which deems the building as Dangerous and Insanitary required that the building is either repaired to a weathertight and non-dangerous state or the building be demolished – ongoing discussions with the Council have occurred as the originally stated date for undertaking these works has expired.
- 3) The upgrade work necessary to achieve an acceptable NBS of at least 67% would involve significant changes to the existing structure and removal of original fabric.
- 4) Relocation and repositioning of the building is not appropriate in this situation, and while structural strengthening of the entire building is technically possible, this would significantly compromise any existing heritage values. Retaining the facade and constructing a new building behind it has been considered as an alternative, but comes at a cost and limits the development options of the site beyond the façade and is not considered a viable option.
- 5) The quantity survey analysis (**Appendix 5**) has identified the cost to retain the building and/or façade with strengthening, are substantial. Given the Ministry has no use for the building, these costs are unreasonable.
- 6) The operative District Plan and decision version of the TTPP recognises the condition of heritage items, particularly those that are in a serious state of disrepair, and the effect of engineering and financial factors on the ability to retain, restore, and continue using them.

6.2 Demolition Effects / Earthworks

A Demolition Management Plan (DMP) will be submitted to Council for certification that it provides suitable measures to avoid or mitigate the effects of demolition activities. The DMP will provide details on the proposed demolition methodology and management measures that will be employed during demolition and demolition related works (including groundworks). The plan will be finalised prior to work commencing to ensure that it captures any additional management measures required, including those incorporated in any conditions of consent.

The following management measures are proposed to be included in the Demolition and Construction Management Plans (as relevant to each plan), and the purpose and contents are as volunteered in Section 10 of this application:

- Preparation of a demolition plan and undertaking demolition in accordance with the directions provided by a qualified and experienced structural engineer to avoid collapse of weakened structures, and ensure demolition occurs safely.
- Sampling of potentially contaminated soils and undertaking works in accordance with the directions of a contaminated land specialist.
- Confirmation of approved disposal sites for waste, including contaminated soils.

- Preparing and implementing a Demolition Noise and Vibration Management Plan (DNVMP) outlining how noise and vibration nuisance will be mitigated during demolition activities.
- Controlling noise by restricting use of machinery to between 7.30am – 6.00pm, and truck movements between 7.30am – 5.00pm Monday to Saturday, and avoiding works on Sundays and public holidays except in cases of operational necessity to ensure compliance with New Zealand Standard NZS6803:1999 Acoustics – Construction noise.
- Controlling dust by way of applying water to working faces during demolition, ceasing activities during high winds, and dampening truckloads of demolition material.
- Installing sediment control such as fencing, bunds to prevent sediment entering the stormwater system, and ensuring trucks are clean of material to ensure debris are not carted onto roads.

The final DMP will also accommodate any specific requirements for archaeological site management to align with the requirements of any archaeological authority, and measures to ensure the recovery of heritage building materials/features.

Overall, any adverse amenity effects associated with the demolition will be temporary and avoided or mitigated as far as practicable by the proposed management measure.

6.3 Cultural Effects

As noted above the application site is located within SASM62¹¹ and SASM57. The applicant has consulted with Māwhera, and they support the full demolition of the building, and the remediation works required so that the site can be redeveloped in its entirety. A copy of this correspondence is contained in **Appendix 4**.

A copy of the application has been provided Te Rūnanga o Ngāti Waewae in advance of lodgement and they have been advised that the applicant has requested public notification. They have also been advised that any feedback received during the consultation/submission process will be considered and implemented (as required). However, it is noted that this does not constitute pre-application consultation with the Rūnanga, and it is acknowledged that the Council, as processing authority, will undertake additional mana whenua consultation.

Owing to the nature of the works, it is not anticipated there will be any adverse cultural effects associated with the proposal. Notwithstanding, the applicant is offering a condition of consent requiring the adoption of an accidental discovery protocol in association with the earthworks required to remediate the site.

6.4 National Environmental Standard relating to soil contamination (NES-CS)

Owing to the presence of asbestos, the site is considered to be a piece of land covered by clause (7) of NES:SC. Based on the expected level of soil disturbance/removal, outlined in Section 2 of the application, and the types of potential contaminants present, the soil disturbance activity would require resource consent.

¹¹ SASM 62 Identifier: No 31. Māwhera Native Reserve. Description: Māori Reserve, Pā site, Urupā, Cultivations.
SASM 57 Identifier: Māwhera Gardens

As the area to be excavated is currently covered with an existing building, subsurface investigation is currently not possible. In the absence of an investigation (i.e. DSI), the consent therefore needs to progress down the **discretionary** activity pathway (pursuant to clause 11 of the NES:SC).

Given the unknown nature of the excavated material, it is proposed that an investigation of the material be carried out once the building has been demolished and access to the underlying soils is provided. The investigation will be carried out to assess potential impacts to human health and to assist in determining an appropriate mediation option and/or an appropriate offsite disposal location for the surplus soils generated.

To appropriately manage the potential effects to human health from the area beneath the existing building, five conditions of consent are offered by the applicant in Section 10 below.

6.5 Positive effects

Positive effects are relevant under s.104 to the consideration of resource consent applications. Overall, the positive effects of the proposed development are summarised as follows:

- Removes an earthquake prone, and therefore unusable and unsafe building that has ongoing costs associated with retaining.
- The works will ensure compliance with the requirements of the Section 124 Dangerous and Insanitary Building Notice that has been issued.
- The proposal remediates a contaminated site and provides for the redevelopment of the site by Mawhera.
- The removal of a building in poor condition, and the associated security fencing, will have amenity benefits for the site.

7. Objectives and Policies

7.1 Grey District Plan

Heritage

Objective 14.3 recognises:

1. *The recognition and protection of buildings, sites, places and objects which contribute to people's appreciation and understanding of the District's heritage.*

Comment:

The former Courthouse has historically been a significant part of the built landscape of this section of Guinness Road, it has however suffered substantial deterioration and has not been used since 2007. Furthermore, attempts to sell the building so it could be repurposed have been unsuccessful and the Ministry has no need for the building, even if it was in a fit state for use.

The proposed demolition works recognise the current condition of the building, and the effect of engineering, financial and safety factors on the ability to retain and use the building as a whole or in part (façade retention), in the future. In particular, it is noted that the former Courthouse is earthquake prone and a Section 124(2)(c) Building Notice has been issued, which deems the building as *Dangerous and Insanitary* and requires works be carried out to reduce or remove the danger; or prevent the building from remaining insanitary. The upgrade work necessary to achieve an acceptable NBS (of at least 67% NBS) would also involve significant changes to the existing

structure that the Heritage Professional has advised would adversely impact the original heritage fabric, and therefore the existing heritage values. Conditions of consent are offered in Section 10 to minimize the impact of the proposal on 'peoples understanding of the district's heritage', and the Applicant is happy to consider any additional measures that Heritage New Zealand or other key stakeholders may consider appropriate.

It is considered that the current situation is one where demolition is justified, as further discussed in the assessment of the proposal, against the matters in Policy 14.4.4, below. The proposal is therefore considered to be consistent with this Objective.

Policy 14.4.3 – *encourages the use of protected buildings, sites and features in the District, while ensuring that their valued heritage features are not altered or destroyed.*

Comment:

Notwithstanding lease matters associated with the site, because of the condition of the building and the cost to repair and repurpose, there is no practicable ongoing use for the heritage item. Similarly, in considering any opportunities for façade retention, as noted in the Heritage Assessment:

“the heritage significance of the retained facade would be greatly reduced compared to the time when it was a fully operating Court facility and the success of the proposed facade retention would depend on the scale and form of new development that might occur behind it.

The facade retention proposal requires a willing buyer, developer and landowner, none of which seem to be available or interested.”

Whilst the façade is identified as retaining heritage values, it is recognised by both Mr Fulton as the Heritage Professional for the project, Mawhera as landowner, and the applicant as the owner of the building as not being practicable. Accordingly, the proposal, including removal of the façade is not considered to be inconsistent with the Policy.

Policy 14.4.4 –notes:

Demolition, alteration, disturbance of identified items should not be allowed unless it can be demonstrated that:

- a) the item is in a state of disrepair and the costs to repair are significantly greater than other development alternatives on site.*
- b) any alteration will not detract from its heritage value.*
- c) relocation of the item is able to be accommodated without having a significant adverse effect.*
- d) practical utilisation of the item is not possible.*
- e) regard has been had to cultural and spiritual significance of Tangata Whenua.*
- f) circumstances exist where the heritage item and land it is sited on is in different ownership and following investigation into practical options for the retention of the heritage item, it is unreasonable for the building to remain.*

Comment:

As noted above, the building is earthquake prone; it cannot be used in its current condition and carries commensurate health and safety risks; and a s.124 Notice under the Building Act has been

issued by the Council requiring the threat the building could pose in the event it collapsed to be remediated.

In considering whether the extent of the work required to retain and/or repair the heritage item is of such a scale that the heritage values and integrity of the heritage item would be substantially compromised, the attached Heritage Assessment notes:

“The building behind the street facade both inside and outside has been compromised by modification, vandalism, moisture ingress and structural degradation. This will be further compromised by the proposed WSP strengthening proposal, to the point that we would describe its remaining heritage value as being significantly compromised.

We could support the facade retention proposal on the basis that it would continue to contribute to the existing streetscape. We acknowledge that the heritage significance of the retained facade would be greatly reduced compared to the time when it was a fully operating Court facility and the success of the proposed facade retention would depend on the scale and form of new development that might occur behind it.

The facade retention proposal requires a willing buyer, developer and landowner, none of which seem to be available or interested.”

The quantity survey analysis has identified the cost to retain the building with strengthening to 100%, 67% NBS or to retain the façade on its own, are substantial, with the cost estimated at \$6.8 million and 4.5 million respectively. As the Ministry does not own the land and has no use for the building if the works were undertaken, and noting the remaining term of the lease, the costs are considered unreasonable, and not tenable given the Ministry.

The damage sustained and the extent of works required to bring the structure up to the recommended minimum of 67%NBS; combined with the nature of the structure and its position and function as a former Courthouse means that a reduced degree of deconstruction is not a viable consideration.

It is also noted that the building is located on land which is owned by Mawhera Incorporation, while the building is owned by the Ministry.

As acknowledged in the District Plan¹²:

This somewhat unique situation can result in Mawhera Incorporation, at the expiry of a lease, retaining buildings which they do not own and for which they did not have previous responsibility. There is also not the same incentive for owners of buildings to maintain the buildings when they do not have an interest in the land and even if a party able to maintain a heritage building is found Mawhera may be unable to dispose of the property. These factors need to be considered when considering resource consent applications for these buildings.

The Ministry’s lease commenced in July 1995 and is for a term of 42 years (until 2037), with a further right of renewal for a further term of 63 years. The Ministry has no use for the building, even if it could be occupied, and no private buyers have been found for the building.

Mawhera has advised they support the full demolition of the building (Attachment 5).

¹² Grey District Plan, Chapter 14, Pages 63-64.

For the reasons outlined in the application, following investigation into practical options for the retention of the heritage item, it is unreasonable for the building to remain. The proposal is therefore considered to be consistent with this policy.

Commercial Areas

Objective 17.3 seeks to ensure the resources in the townships are managed in a manner that provides for the social and economic well being of the people and communities without creating adverse effects.

Objective 20.3 requires:

The efficient use of commercial and industrial areas including the port area, to serve the needs of the District in a manner that maintains a standard of amenity appropriate to the area and which will not compromise the amenity of adjoining areas.

Comment:

Owing to the relevant constraints associated with the building, adaptive re-use is not feasible.

Retention would therefore result in the continued degradation of the former Courthouse. For the reasons outlined in Section 6 above, the proposal is considered appropriate, and the demolition of the building and the remediation of the site to allow for its future redevelopment, will ensure an appropriate level of amenity will be maintained.

7.2 Decision version Te Tai o Poutini Plan

Heritage –Ngā Tuku Ihotanga

HH Objective 1 - Recognise, protect and celebrate the benefits of historic heritage of the West Coast/Te Tai o Poutini and its contribution to wellbeing through supporting a sense of place, community identity, culture and economic opportunities.

HH Objective 2 - Provide for development opportunities that are sensitive to the identified values of scheduled historic heritage items and areas while providing for the protection of these values.

HH Objective 4 - Protect historic heritage by restricting relocation, repositioning, internal and external alterations and additions to heritage items and not allowing demolition and destruction.

Policy HH - P7 is the most relevant to the proposal. It states:

Demolition and destruction of historic heritage items identified in Schedule One will not be allowed unless it can be demonstrated, through investigation and assessment by a suitably qualified heritage professional that:

- a. The extent of the work required to retain the heritage items is of such a scale that the heritage values and integrity of the heritage item would be significantly compromised;*
- b. The costs to retain or repair the heritage item would be unreasonable;*
- c. All other viable alternatives, including relocation and repositioning have been fully considered.*

Comment:

The outcomes sought by the Heritage objectives and policies are similar to those in the District Plan. The assessment above of the proposal against the Chapter 14 Heritage provisions of the

District Plan is therefore considered applicable to the aforementioned heritage provisions in the TTPP. In summary, the proposal is consistent with the thresholds established in HH-P7, and therefore (noting that policies implement objectives), the proposed works are considered to be generally consistent with the TTPP outcomes as related to Heritage. The TTPP, clearly enables demolition of Heritage items subject to consideration against the framework.

The attached costings prepared by AECOM demonstrate that the costs to retain or repair the building as a whole or the façade on its own are not economically viable.

The attached Heritage Assessment assesses the extent of the work required to retain the building and these conclusions are outlined in the assessment of the proposal against the heritage provisions in the Grey District Plan above.

Overall, the proposal is considered to be consistent with the historic heritage objective and policies.

Commercial and Mixed Use Zones - Ngā Takiwā Pakihi me ngā Takiwā Hanumi - Ngā Whāinga me ngā Kaupapa Here

Objective CMUZ – 01 seeks to maintain and enhance the character and amenity values of commercial areas and town centres while enabling commercial and other activities to support the local community and visitors.

Objective CMUZ – 03 seeks to maintain the integrity of Te Tai o Poutini/the West Coast town centres as a place of high-quality built environment character, community and visitor focus and identity.

Objective CMUZ – 04 recognises that Māwhera/Greymouth is the principal commercial and urban centre on Te Tai o Poutini/the West Coast and support its redevelopment through providing for a range of commercial and mixed use zones and activities within a high-quality urban environment.

Policy CMUZ – P1 where cultural landscapes are identified in commercial areas or developments, ensure activities are managed in a way that provides for the cultural relationships of Poutini Ngāi Tahu including;

- a. Protection of wāhi [tapu](#) and taonga sites in [Schedule Three](#) of the Plan using [Poutini Ngāi Tahu](#) culturally appropriate methods;
- b. Identification and utilisation of opportunities to enhance sites, values and other taonga of cultural significance to Ngāi Tahu; and
- c. Protection of the relationship of [Poutini Ngāi Tahu](#) with freshwater, including cultural wellbeing and use opportunities.

Policy CMUZ – P15 recognises that activities within the Town Centre should, amongst other things:

- a. Maintain or enhance natural historic features and built form;
- b. Adaptively reuse existing heritage buildings where practicable;
- c. Recognise and implement good urban design...

Comment:

The outcomes sought by the Commercial zone objectives and policies are similar to those in the Operative District Plan. The assessment above of the proposal against the Chapter 17 Commercial Zone provisions of the Operative District Plan is therefore considered applicable to the aforementioned commercial provisions in the decision version of the TTPP.

Retention would result in the continued degradation of the former Courthouse as no viable use or willing buyer has been found for the building. Therefore, for the reasons outlined in Section 6 above, the proposal is considered appropriate, and the demolition of the building, remediation of the site and grassing the site while it awaits redevelopment, will ensure an appropriate level of amenity will be maintained.

Contaminated Land - Ngā Whenua Tāhawahawa

Objective CL – 01 seeks to ensure that contaminated land is used, subdivided, developed or managed in a way that avoids or mitigates adverse effects on the environment and human health.

Policy CL – P1 seeks that at the time of subdivision, change of use or development, identify sites that may be subject to potential contamination as a result of historical land use and activities and investigate the risks to human health and the environment.

Policy CL – P2 seeks to ensure that when contaminated land is used, subdivided and/or developed, it is managed or remediated in a way that avoids or mitigates adverse effects on the environment and manages the risk to human health to a level that is appropriate for the intended use.

Comment:

To appropriately manage the potential effects to human health from the area beneath the former Courthouse, five conditions of consent are offered by the applicant. These are outlined as conditions 7-11 in Section 11 below. Subject to the works being carried out in accordance with the offered conditions of consent, any potential adverse effects associated with contamination will be appropriately mitigated.

Sites and Areas of Significance to Māori - Ngā Wāhi Tāpua ki te Māori

The following objectives and the associated policies SASM – P1 to SASM – P15 are all considered relevant to the proposed development:

- SASM - O1 Sites and areas of significance to Poutini Ngāi Tahu are recognised and identified and Poutini Ngāi Tahu are actively involved in decision making that affects their values to provide for tino rangatiratanga and kaitiakitanga.
- SASM- O2 Poutini Ngāi Tahu are able to access, maintain and use areas and resources of cultural value within identified sites, areas and cultural landscapes.
- SASM- O3 The values of sites and areas of significance to Māori and cultural landscapes are protected from inappropriate subdivision, use and development including inappropriate modification, demolition or destruction.

Comment:

The applicant has undertaken pre-application discussions with Mahwera and noting the scale and nature of the proposed works and the associated remediation of a contaminated site, it is considered that the proposed works will not impact on the rights, interests and values of Poutini Ngāi Tahu.

8. Part 2 of the Act

8.1 Summary

The TTTP gives effect to the RMA, as above, the proposal is consistent with the provisions, and therefore implements s6(f).

Owing to the damaged state of the building, the legal requirement to address the s124 notice that has been served, and the extensive costs associated with any repair and strengthening solution, further adaptive re-use and façade retention are not feasible. Retention would therefore result in the continued degradation of the building as a whole or the façade on its own. If such a future is the inevitable outcome for the former Courthouse, it is difficult to conclude that a drawn-out decline is in any way less offensive to Section 7(g) than its more imminent demolition. Section 7(b) can be better achieved through the removal of the building and the realisation of opportunities to reuse the site has the potential to meet the social and economic needs of the community.

In terms of Sections 7(c) and 7(f), it is acknowledged that the character of the immediate area will change from its current appearance. As the continued decline of the physical resources is an inevitable outcome of the building's retention, it is considered that such an outcome less successfully achieves the maintenance of amenity values, or the quality of the environment, than the alternative which is demolition and removal of remaining materials.

8.2 Section 5 conclusions

That the former Courthouse contains heritage values and is an important part of the localised streetscape is undisputed. If however, the retention of the building inevitably leads to its continued degradation, it is considered that the sustainable management in the sense of providing for the cultural, social, and economic well-being of the community would not be provided for. A drawn-out deterioration of the building, where all other avenues for retention appear to be exhausted, would result in a decline in the remaining heritage values currently held for the building. A judgment therefore has to be made as to whether the purpose of the Act would be better achieved by the retention of the former Courthouse in its current and deteriorating condition or its demolition.

For the reasons set out above, it is considered that the demolition of the building is not "inappropriate" and would better achieve the purpose of the Act than retaining the building.

8.4 Section 104D(1)(b) Threshold Test

As noted above, Section 104D of the Act directs that a consent authority may grant a resource consent for a non-complying activity only if it is satisfied that either the adverse effects of the activity on the environment (other than any effect to which section 104(3)(a)(ii) applies) will be minor; or the application is for an activity that will not be contrary to the objectives and policies of both the relevant plan and the relevant proposed plan, if there is both a plan and a proposed plan in respect of the activity (section 104D(1)(b)(iii).

It is understood that when considering whether the adverse effects will be minor, there is no statutory authority to consider the positive effects that might accrue from the proposal. Rather it is the adverse effects, as proposed to be remedied and/or mitigated, and taken as a whole, that are to be no more than minor. In this instance, for the reasons outlined in Section 6 below, the effects from the loss of heritage values, particularly those associated with the façade, are **at least** more than minor as confirmed in the evidence of Mr Fulton.

When assessing the second aspect of the threshold or gateway test, it is understood that the term contrary means that a proposal must be "not repugnant" to the relevant plan objectives and policies rather than simply not being in accordance or inconsistent with them. This is a high threshold, and in order to be considered 'contrary' as in 'repugnant' the application must demonstrate a significant level of inconsistency with the policy framework. As noted in Section 7 above, the proposal is consistent with Objective HH – O4 and Policy HH – P7. These provisions establish a pathway for the consideration of demolition of heritage items, and thorough investigation and assessment, it has been demonstrated that unique circumstances exist so that

demolition in this instance is consistent with the policy framework. The proposal is therefore able to pass **this** limb of the section 104D threshold tests; and as such, is able to be considered for approval pursuant to section 104 of the Act.

9. Consultation/Notification

Details of the pre-application engagement undertaken by the Ministry with several key stakeholders is contained in Section 1.

Under the provisions of the amended RMA there is now no presumption in favour of notification (section 95A). The requirement for the Council to be “satisfied” that the effects “will be minor” before proceeding on a non-notified basis has been removed. Instead, public notification is only required if the Council “decides” that the activity:

... will have or is likely to have adverse effects on the environment that are more than minor.

The Ministry is requesting the application be publicly notified in accordance with section 95A(3)(a) of the RMA.

10. Offered Conditions

The condition framework is offered as part of this application and forms the basis against which the subsequent assessment of effects was undertaken.

General

1. Except where modified by the conditions below, the work must proceed in general accordance with the information submitted with the application dated July 2025 (Planz AEE and Appendices 1 – 5). The ‘Approved Consent Documentation’ is entered into the Council’s records as XXX - XXXX pages and the ‘Approved Plans’ (XXXXXXXXXX) are now stamped XXXX plans 1 to XX.
2. Certified works under this consent must be undertaken in accordance with the certified information, plans and methodologies.

Heritage

3. A comprehensive digital photographic record of the affected areas of the former Courthouse and its setting must be made by the Consent Holder’s Heritage Professional before, during, and after the completion of the works. The record must be lodged with the Grey District Council for their records within three months of the completion of the demolition. The intention of the digital photographic condition is to secure a reasonable record of the demolition works. The same digital device positions should be used for all image sets before, during and after the works to enable comparison. They must be labelled with the location, date and photographer’s name, and submitted with a plan showing photograph locations. Images must be at least 1440 pixels by 960 pixels to enable for a 4"x 6" photographic print at a minimum resolution of 240 PPI. Images can be taken with a good quality camera, phone or tablet. Images should be submitted to the Council’s contact electronically, either by email (noting that Council’s email data transfer limit is 20MB per email), or via a file transfer website such as wetransfer.com or dropbox.com to planning@greydc.govt.nz.
4. If considered practicable by the Consent Holder’s Heritage Professional, pieces of the base

stone shall be offered to the Dobson Heritage Park.

Demolition

5. Prior to demolition of any of the existing buildings commencing, the consent holder shall provide to Council a Demolition Management Plan (DMP) for certification that it provides suitable measures to avoid or mitigate the effects of demolition activities. The DMP shall include:
 - Preparation of a de-construction plan, and undertaking demolition in accordance with the directions of a structural engineer to avoid collapse of weakened structures, and ensure demolition occurs safely.
 - Confirmation of approved disposal sites for waste, including contaminated soils.
 - Preparing and implementing a Site Specific Safety Management Plan to ensure hazards are managed.
 - Preparing and implementing a Traffic Management Plan (TMP) outlining how vehicle and pedestrian movements will be controlled to keep the public safe.
 - Preparing and implementing a Demolition Noise and Vibration Management Plan (DNVMP) outlining how noise and vibration nuisance will be mitigated during demolition activities.
 - Controlling noise by restricting use of machinery to between 7.30am – 6.00pm, and truck movements between 7.30am – 5.00pm Monday to Saturday, and avoiding works on Sundays and public holidays except in cases of operational necessity.
 - Controlling dust by way of applying water to working faces during demolition, ceasing activities during high winds, and dampening truckloads of demolition material.
 - Installing sediment control such as fencing, bunds to prevent sediment entering the stormwater system, and ensuring trucks are clean of material to ensure debris are not carted onto roads.
6. The Demolition Management Plan certified by the Council under condition 5 above, shall be implemented for the duration of the demolition activity occurring on the site.

Contaminated Soil

7. The Council shall be notified at least ten working days prior to the commencement of earthworks. The notification shall be emailed to planning@greydc.govt.nz
8. A Site Management Plan (SMP) shall be prepared by a Suitably Qualified and Experienced Practitioner and provided to Grey District Council for approval by way of e-mail to planning@greydc.govt.nz no later than 10 working days prior to the commencement of the development works.
9. In the event of contamination discovery e.g. visible staining, odours and/or other conditions that indicate soil contamination, then work must cease until a Suitably Qualified and Experienced Practitioner (SQEP) has assessed the matter and advised of the appropriate remediation and/or disposal options for these soils. Any measures to remediate or manage the discovered contamination may require a resource consent under the NES.

10. All contaminated soils removed from the site will not be suitable to be disposed of at a cleanfill facility and must be disposed of at a facility whose waste acceptance criteria permit the disposal.
11. The consent holder shall submit evidence (i.e. weighbridge receipts or waste manifest) of the disposal of surplus soils from the site to an authorised facility to the Council, Attention: Team Leader Environmental Health by way of email to planning@greydc.govt.nz, no later than 20 working days following this disposal.

Accidental Discovery Protocol

12. Should archaeological material or sites be discovered during the course of work on the site, work in that area of the site shall stop immediately and the appropriate agencies, including Heritage New Zealand Pouhere Taonga and the Mana Whenua, shall be contacted immediately, in accordance with Accidental Discovery Protocol set out in Appendix 3 of the Mahaanui Iwi Management Plan:
<https://mahaanuikurataiao.co.nz/wp-content/uploads/2019/08/Full-Plan.pdf>

11. Conclusion

The Ministry of Justice seeks land use consent to demolish the heritage scheduled former Courthouse at 8 Guinness Street, Greymouth.

Resource consent is also sought as a discretionary activity in accordance with the NES:CS.

The building is substantially damaged and has subsequently been the subject of detailed structural inspections and cost analyses. The former Courthouse is considered to be 'Earthquake Prone' when considered in the context of the New Zealand Building Act 2004.

Owing to the damaged state of the building, the legal requirement to address the s124 notice that has been served, and the extensive costs associated with any repair and strengthening solution, further adaptive re-use is not feasible. Retention would therefore result in the continued degradation of the building.

Through thorough investigation and assessment, it has been demonstrated that unique circumstances exist so that demolition in this instance is consistent with the objective and policy framework and in particular Objective HH – O4 and Policy HH – P7. The proposal is therefore able to pass both limbs of the section 104D threshold tests; and as such, is able to be considered for approval pursuant to section 104 of the Act.

It is considered that the proposal is in keeping with the intent of the District Plan and the and is consistent with the requirements of Part 2 of the RMA

APPENDIX 1

Record of Title



**RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD**

**Guaranteed Search Copy issued under Section 60 of the Land
Transfer Act 2017**




R.W. Muir
Registrar-General
of Land

Identifier **WS8B/702**

Land Registration District **Westland**

Date Issued 26 July 1995

Prior References

WS3B/18

Estate Fee Simple
Area 1370 square metres more or less
Legal Description Lot 4 Deposited Plan 3250
Registered Owners
Proprietors of Mawhera

Interests

Subject to Schedule 1 of the Maori Reserved Land Amendment Act 1997 (which provides a right of first refusal to the other party to lease, on either a transfer by the lessor or an assignment by the lessee, to third party)

71054 Compensation Certificate pursuant to Section 19 Public Works Act 1981 - 2.5.1985 at 10.00 am

101971.4 Easement Certificate specifying the following easements - 26.7.1995 at 11.00 am

Type	Servient Tenement	Easement Area	Dominant Tenement	Statutory Restriction
Right to convey electricity and water	Lot 4 Deposited Plan 3250 - herein	Herein	Lot 1 Deposited Plan 3250 - CT WS8B/700	

The easements in Easement Certificate 101971.4 when created will be subject to Section 243(a) Resource Management Act 1991

101971.5 Transfer creating the following easements in gross - 26.7.1995 at 11.00 am

Type	Servient Tenement	Easement Area	Grantee	Statutory Restriction
Right to convey water and to drain water and sewage	Lot 4 Deposited Plan 3250 - herein	Part herein	Grey District Council	

The easement created by Transfer 101971.5 is subject to Section 243(a) Resource Management Act 1991

103354 Lease to Her Majesty the Queen acting by and through the Secretary of Justice (for and behalf of the Department for Courts) Term 42 years 3 months commencing 1.7.1995 (Right of renewal) - 7.12.1995 at 11.00 am

DOSLI FORM D15

APPENDIX 2

Heritage Assessment – Fulton Ross Team Architects

T E A M [®]

TEAM ARCHITECTS CHCH LIMITED

284 Kilmore Street, Christchurch 8011

christchurch@teamarchitects.co.nz

03 366 7165 | www.teamarchitects.co.nz

FORMER GREYMOUTH COURTHOUSE

8 Guinness Street Greymouth



View from Guinness Street

HERITAGE ASSESSMENT OF EFFECTS

By William Fulton

(Team Architects ChCh Limited)

Table of Contents

1.	INTRODUCTION	3
2.	BACKGROUND	4
3.	CURRENT CONDITION.....	6
4.	HERITAGE SIGNIFICANCE.....	8
5.	CURRENT PROPOSAL AND OPTIONS.....	10
6.	ASSESSMENT MATTERS.....	10
7.	CONCLUSION.....	12

1. INTRODUCTION

The Ministry of Justice have applied to demolish the Former Greymouth Court House (Building) located at 8 Guinness St Greymouth. Team Architects have been commissioned to assess the impact of this proposal on the Heritage values of this building.

I visited the site on the 12 November 2025 and inspected the structure and site, both inside and out. I have considered the following:

- Engineering reports from WSP
- Tai o Poutini District Plan Heritage Matters
- Heritage NZ Pouhere Toanga Heritage List information.

I met with Heritage NZ Pouhere Toanga on 9th October 2025.



Rear brick construction

2. BACKGROUND

The Former Greymouth Courthouse was built in 1912 to a design by the then Government Architect John Campell. The design is described as Edwardian Baroque, a style adopted by Campell for many of the Government buildings he was responsible for over his 30-year career. The building replaced a timber District Court building that dated back to 1876.



Original Building close to completion (note original parapet)

The foundation stone was laid on 12th March 1912 recording the local MP and Speaker of the House, Hon Sir A R Guinness; the Minister of Public Works, Hon R McKenzie; the Architect, J Campbell; and the contractor, J Kelsall & Sons.



Foundation Stone

The building was constructed at a time when Greymouth was establishing itself as the main centre of the West Coast and timber buildings were being replaced by masonry buildings. Other permanent civic structures like the Post Office were built in this era.



Courthouse showing adjacent Post Office and tower

The building served as Courthouse from 1912 to 2007. Over that time there were major alterations made to suit the changing needs of the Court. Early photographs indicate substantial masonry structure behind the current facade that would have housed the original Courtroom. It is not clear when this was removed, along with the upper section of the street facing parapet, but a major renovation of the Court Room was carried out in the 1970s with a new portal frame structure, so it stands to reason that these changes likely occurred at the same time. Further internal alterations with the insertion of mezzanines in the 1980s suggest that there was insufficient space within the original building to house the expanding functions of the Court.



View of mezzanine

The Building is scheduled under the Tai o Poutini District Plan as Historic heritage item #68, the Former Courthouse. The Building is also recognised by Heritage New Zealand Pouhere Toanga as a Category 1 Historic Place, list # 5016.

3. CURRENT CONDITION

The Courthouse functions moved to a larger more modern facility further along Guinness St in 2007, leaving the Former Courthouse Building empty.

In the intervening years the building has substantially deteriorated to its current condition. The interior has suffered damage from intruders and the ingress of moisture. There are signs of mould and vandalism.



Signs of mould and water ingress

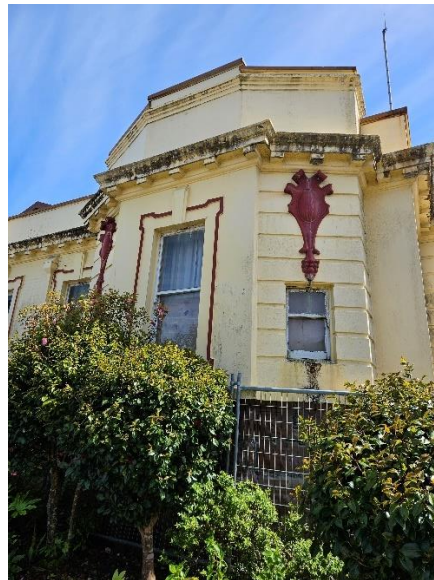
The building has been assessed as having a NBS rating of 15%. While there are sections of the building that are above that figure, especially around the 1970s portal framed Courtroom space, the poor state of the rear exposed brick structure determines the overall building strength.

Structurally there are areas of external brickwork on the west elevation that are bulging to the point of likely collapse. There are related horizontal cracks at the ceiling level on this elevation that are symptoms of seismic damage. It is understood that when the MoJ became aware of these structural issues they undertook preventive measures to restrict access within the building and any adjacent fall zone.



Horizontal crack above window head

The main Guinness Street facade is fenced off with resultant vegetation growth and degradation of the painted plaster surface. It is understood that that the painted stone base, which is original stone from a nearby Dobson quarry, has been tested to contain Asbestos. The impervious painted surface has caused degradation to the underlying stone.



Vegetation growth to street elevation

The condition of the current Building can be described in 3 broad terms. The Guinness Street facade appears sound but is unkempt due to not having a functional use, and its related lack of ongoing maintenance. The brick clad structure to the rear of the main facade is in poor condition with loss of mortar, vegetation growth and in part deteriorating structural integrity. The interior is in poor condition with moisture ingress and vandalism.

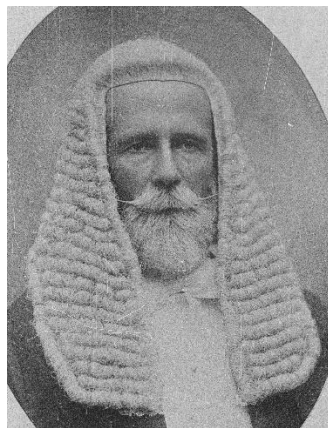


Current Courtroom

4. HERITAGE SIGNIFICANCE

Historical & Social

The site of the Former Greymouth Courthouse has Historical and Social significance as the place where the law was administered from 1876 to 2007. The existing Building, dating from 1912, was constructed at a time when the New Zealand Government was investing in permanent institutions, like Court facilities and Post Offices. The building reflects the importance of Greymouth as a regional centre on the West Coast. Sir Arthur Guinness, the local MP (1884 – 1913) and then Speaker of the House, laid the Foundation Stone. John Campbell, the first Government Architect (1909-1922) designed the building



Sir Arthur Guinness, Greymouth MP and Speaker of the House

Architectural & Aesthetic

John Campbell designed the building in what can be described as Edwardian Baroque, a style he became well known for. While the original structure was more magnificent than the current facade, it does retain much of the solidity, classically inspired detail and general confidence and exuberance common to Neo-Baroque architecture. This aesthetic is perhaps a reflection of the era in which it was constructed when nationalism and New Zealand's part in the British Empire was seen as important to reinforce through civic architecture.



John Campbell, Govt Architect

Contextual

The main facade is an important part of the streetscape of Guinness St. It is the sole survivor of a number of Victorian & Edwardian buildings, including the former Post Office. Being one of the last remaining buildings of that era, and despite being a shadow of its original both in form and function, the facade is a reminder of how much of Greymouth's town centre once appeared.



Greymouth 1950s showing Greymouth Courthouse in context

Archaeological

Given that the site was once home to a 19th Century District court building, there remains the possibility of below ground archaeological evidence relating to pre-1900 occupation. The construction of the current building, in 1912 may well have disturbed the site to an extent that any evidence of prior habitation was destroyed.

5. CURRENT PROPOSAL AND OPTIONS

The current proposal by the Building owner and site leaseholder, Ministry of Justice (MoJ) is to demolish the entire structure leaving a cleared site to be handed back to the landowner, Mawhera Incorporated Society (Mawhera).

The MoJ have investigated strengthening proposals to both 34% and 67%. These levels of strength mean that the building would no longer be a threat to life safety in the event of a moderate earthquake. They would also require a level of structural intervention that further diminished the already compromised heritage values and remaining fabric of the interior spaces.

The MoJ have also looked at a scheme to retain just the Guinness St facade (and its returns) in the hope that a future owner would want to construct a new building behind the facade.

The MoJ no longer has a use nor need of the building. They have attempted to sell the building and lease without success. They have also offered the building back to Mawhera, who have expressed no interest in the retention of the building.

6. ASSESSMENT MATTERS

The proposal has been assessed against the Te tai o Poutini Plan. A key objective of the Plan, set out in HH -04, is to protect historic heritage from demolition. Further policy noted in HH – 07 notes that demolition of historic heritage items needs to demonstrate that:

- a. The extent of the work required to retain the heritage items is of such a scale that the heritage values and integrity of the heritage item would be significantly compromised.
- b. The costs to retain or repair the heritage item would be unreasonable
- c. All other viable alternatives, including relocation and repositioning, have been fully considered.

Having visited the building and assessed its condition my observation is that the bulk of the building behind the street facade, both interior and exterior has been compromised whether by modern alteration, intruder vandalism, structural failure and moisture ingress. The WSP strengthening proposals further compound this to the point that together the current condition and strengthening proposals would significantly compromise the remaining heritage fabric of that section of the building.

The street facade is less damaged and much of the visible decay is superficial either flaking and contaminated paint, vegetation growth and the condition of the timber joinery. The facade has had part of the upper parapet removed (possibly in 1970s) and replaced with a light-weight capping. However, the facade retains the bulk of its original form and has been considered for a facade retention proposal by WSP (30 May 2025). This involves the temporary propping of the external brick wall, removal of the inner wythes of brick, underpinning and strengthening the existing foundation and pouring a new structural wall in place of the inner brick wythes. This new wall would provide the surface for any new development as a stand-alone structure. The current facade has been compromised by the changes that occurred in the 1970s and further compromised by the lack of attention that has led to its current condition.

In summary, our assessment is that the building beyond the facade has been and will be significantly compromised in terms of the impact of existing damage and the proposed strengthening schemes on its heritage value. The street facade, however, has had its heritage value mildly compromised by past works and its current condition. Therefore, a facade retention scheme has been considered in terms of retaining those heritage values. While a facade retention option would diminish the heritage values, it would retain the streetscape and contextual values associated with the building.

I understand that there have been costs attributed to the proposed work, including the facade retention proposal. This is the work of a QS, and beyond my area of expertise, so I will let them comment on item HH-07 b.

The MoJ have considered alternatives including a Facade retention proposal and strengthening of the building beyond the street facade. They no longer have a use for the building and have offered it for sale, both to the public and to the landowner. They have not had any success despite offering to essentially give it away.

Relocation and repositioning of the building is obviously not appropriate in this situation, and while structural strengthening of the entire building is possible, we have noted that this would significantly compromise any existing heritage values. Retaining the facade and constructing a new building behind it is a viable alternative in terms of retaining a tangible link to the past and a degree of heritage retention but I understand that comes at a cost and limits the development options of the site beyond the facade.



Facade retention would retain existing Streetscape values

7. CONCLUSION

We have outlined the history and current condition of the Former Greymouth Courthouse. It has existed on this site since 1912 and replaced a previous timber building that dated back to 1876.

The building served as the Courthouse for 95 years, closing in 2007 and moving to a new facility nearby.

Internal alterations in the 1970s and 1980s extended the buildings' function by providing more space and more resistant Courtroom structure but with the loss of some original heritage fabric.

The building has been empty since 2007 and our recent site visit observed that the building is in poor condition with intruder vandalism, moisture ingress and degrading structural brick walls.

The building holds intangible heritage values in its Historical and Social values, as a place where justice was administered, and local and national identities were involved. The architect, John Campbell, left a legacy of Government buildings across the country, including this building which contributes to the streetscape, despite the modern changes that have occurred around it.

Having described the heritage significance of the existing building we assessed the impact of the proposal against the objectives and policies of the Tai o Poutini Plan. The building behind the street facade both inside and outside has been compromised by modification, vandalism, moisture ingress and structural degradation. This will be further compromised by the proposed WSP strengthening proposal, to the point that we would describe its remaining heritage value as being significantly compromised.

I could support the facade retention proposal on the basis that it would continue to contribute to the existing streetscape. I acknowledge that the heritage significance of the retained facade would be greatly reduced compared to the time when it was a fully operating Court facility and the success of the proposed facade retention would depend on the scale and form of new development that might occur behind it. However, I believe the existing facade with a well-considered development behind, would still warrant protection under the District Plan.

The facade retention proposal requires a willing buyer, developer and landowner, none of which seem to be available or interested.

Regrettably, therefore it appears that the Former Greymouth Courthouse building has served its purpose and any remaining heritage significance, contained mainly in its street facade has diminished when compared to the era in which it was constructed. During our site visit, it was clear that a new Greymouth is emerging that reflects tangata whenua and their aspirations for the future



W Fulton

Team Architects ChCh Limited

M ICOMOS

FNZIA

APPENDIX 3

Engineering Assessments- WSP



30 May 2025

John Rossetter
Project Manager Capital Delivery
Ministry of Justice
John.Rossetter@justice.govt.nz

Old Greymouth Courthouse - Structural reinstatement options

6-DP545.02

Dear John,

Please find outlined below a summary of the structural reinstatement options considered for the Greymouth Old Courthouse, located at 8 Guinness Street, Greymouth.

Background

The Old Greymouth Courthouse building is a single storey building of unreinforced masonry construction. The building is currently unoccupied and is in a poor condition. The building is listed on the District Plan as a Historic Place Category 1 building.

An assessment of the building structural condition was carried out in 2019 in conjunction with a Detailed Seismic Assessment (DSA). This work found the building to be in a poor state, and the DSA assessed the building capacity to be <34%NBS(IL2). A conceptual strengthening option was presented within this report to achieve 67%NBS(IL2).

In 2024, a further structural inspection was carried out and an additional conceptual strengthening option provided for a 100%NBS(IL2) solution to assist the Ministry with decision-making on the building's future.

In 2025, an additional concept option to retain and strengthen the front façade as part of a re-build was reviewed, with a strengthening concept provided.

The relevant documents are listed as follows:

1. 2019 – Old Greymouth Courthouse Building Assessment report
2. 2024 – Greymouth District Court – Old Courthouse Seismic Strengthening Scheme letter
3. 2025 – Old Greymouth Courthouse – Façade Retention Option letter

Options Summary

The structural strengthening options considered for the Greymouth Old Courthouse building are shown below in chronological order:

1. Full reinstatement to achieve 67%NBS(IL2)
2. Full reinstatement to achieve 100%NBS(IL2)
3. Reinstatement of the front façade as part of a new building to achieve 100%NBS(IL2)

Regards

A handwritten signature in blue ink that reads 'Jamie Lester'.

Jamie Lester

Technical Director – Building Structures



30 May 2025

John Rossetter
Project Manager | Capital Delivery
Ministry of Justice
John.Rossetter@justice.govt.nz

Old Greymouth Courthouse – Façade Retention Option

Dear John,

As requested, please find below our summary report as associated with what would be required for a façade retention option for the Old Greymouth Courthouse. The views formed in this report regarding the existing building condition, structural systems and strengthening options are based on the previous WSP reports dated 2019 and 2024.

The purpose of the report is to provide a high-level review considering the retention of the Guinness Street façade as an alternative to complete demolition. It is considered that the other non-street facing facades and internal courtroom walls through a combination of absence of specific heritage values and poor condition are not considered further. A single option for temporary propping and permanent support of the Guinness Street façade has been appended.

Background

WSP has been engaged by the Ministry of Justice (MoJ) to provide a review of façade retention for the Old Greymouth Courthouse building located at 8 Guinness Street. The Greymouth Courthouse is a heritage building and is listed on the District Plan as a Historic Place Category 1. WSP understand that the purpose of this review is to assist in the consideration of 'alternatives' to complete demolition as necessary to fully assess the retention of heritage values as associated with the building.

WSP carried out a seismic assessment and condition assessment of the Old Greymouth Courthouse in 2019. In 2024, WSP presented a concept strengthening scheme to 100%NBS (IL2) to inform cost estimation.

WSP understand that the cost of strengthening was identified as being unreasonable to bring the entire structure up to 67% or 100%NBS (IL2). WSP understand that it is necessary for MoJ to consider options for façade retention of the existing building. This report will explore the alternative to full demolition being retention of the façade only.

Scope

The scope of this façade retention option assessment includes the following:

1. Identify the extent of the façade able to be retained.
2. Carry out conceptual calculations (for one option) to identify structure required to provide facade restraint, considering two scenarios:
 - a. A temporary condition during construction.

- b. A permanent solution for façade tied into new structure.
3. Preparation of conceptual retention sketches (appended).

Existing Structure

The Old Greymouth Courthouse is an unreinforced brick masonry (URM) building constructed circa 1912 and is a single storey structure with a floor plan of approximately 650m².

The double-brick interior wythe of the perimeter walls are 3.8 metres high and provide resistance for gravity and lateral loads. The single-brick exterior wythe is used as façade veneer and is tied to the interior wythe by means of cast iron masonry ties through the 50mm cavity in-between. Concrete lintel beams are in position above the window cavities. A separate lintel is used for the internal and external wythe of the wall, creating a separation between the two layers of wall.

The internal walls of the courtroom are 510 mm thick comprised of 4 bricks with a cavity dividing them. The top section of the courtroom walls contains a concrete bond beam.

Foundations consist of brick strip footings located under wall locations of the structure

Engineering Approach

The engineering approach to facade retention of heritage buildings involves a meticulous care to preserve the historical and architectural significance of the facade while allowing for modern development behind it. This method, referred to as facadism, involves several critical principles and methodologies to ensure the stability and integrity of the preserved facade while allowing for new construction behind it. Key considerations include:

1. **Structural Assessment:** A thorough evaluation of the existing facade's condition is necessary. This includes identifying any structural weaknesses, material degradation, and potential hazards.
2. **Support Systems:** Temporary support structures, such as scaffolding, frames or props, are designed to hold the facade in place during the construction process. These systems must be capable of withstanding both vertical and lateral loads, including wind and seismic forces.
3. **Load Distribution:** Ensuring that the loads from the facade are effectively transferred to the foundation. This involves designing support systems that can distribute the loads evenly to prevent any part of the facade from collapsing.
4. **Integration with New Construction:** The new building structure must be carefully integrated with the retained facade. This can involve using advanced techniques like 3D modelling to align the new construction precisely with the existing facade

Suitability for Façade Retention

The existing brick walls of the non-street frontage elevations were identified in the previous WSP reports as being severely dilapidated and in some areas at risk of collapse. These elevations and the interior courtroom walls have also been assumed to hold little heritage value. For these reasons, only the perimeter Guinness Street façade has been considered for possible retention.

The southern perimeter façade visible from Guinness Street is relatively in better condition than the other perimeter façades based on visual inspections and as identified again during the 2024 WSP Strengthening Scheme report. The plaster and paint finish has provided some protection of the brick and grout from harsh coastal weather which has been prevalent on the other perimeter elevations. Its architectural form of bay windows and short return walls has also likely contributed to an improved out-of-plane wall performance compared with the other perimeter façades.

WSP understand the southern façade has the most heritage value as it comprises most of the architectural character and detail that has an immediate presence from Guinness Street. WSP have summarised a temporary retention of the Guinness Street frontage façade only as appended and shown below.

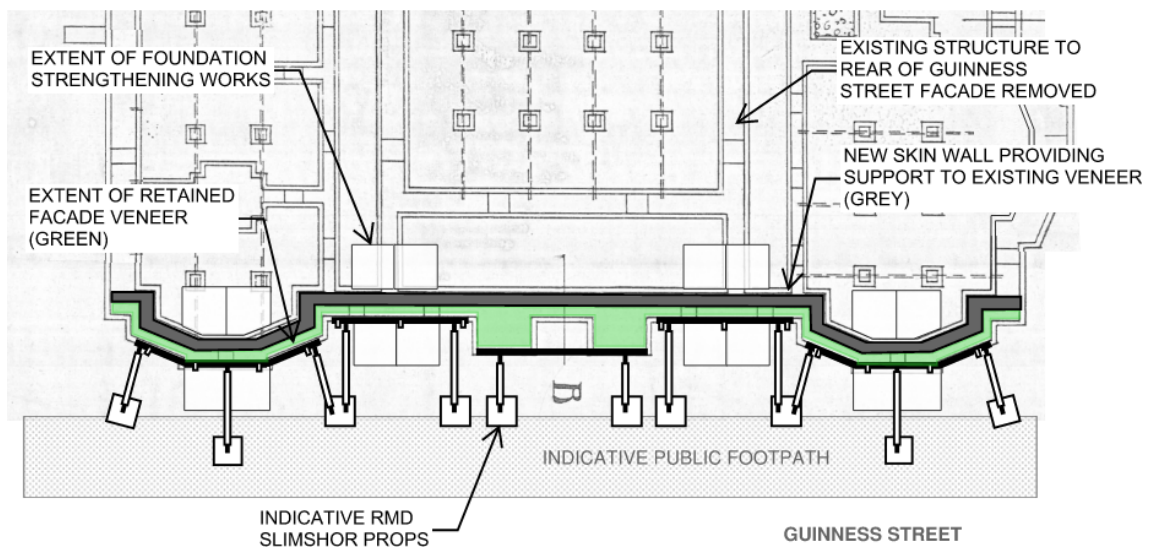


Figure 1 – Temporary propping of southern Guinness Street facade

Structural Support Systems

The temporary façade support method can be implemented using various proprietary and specifically engineered solutions. For the façade retention of the Greymouth Old Courthouse, WSP would propose utilising a proprietary propping system, such as RMD Slimshor props (or a similar alternative). Props are recommended for their superior onsite erection speed, flexibility, tolerance, and minimal disruption.

Permanent support for any retained façade will be achieved through foundation improvements, new veneer support (e.g., a 'skin wall'), and new roof-level support integrated into the new building development. Foundation enhancements would follow the 2024 WSP strengthening report, with additional internal screw piles to provide balanced support across both the interior and exterior sides of the existing foundation. A new reinforced concrete tie beam will link the internal pile caps together for improved load distribution across the foundation.

A skin wall is proposed behind the retained veneer to provide out-of-plane support between the foundation and roof-level supports. This skin wall will be constructed of reinforced concrete and secured to the existing veneer using post-installed screw-type brick ties.

Roof-level support for any retained wall is essential. The new building development must provide this support to the strengthened walls. The recommended approach involves installing post-installed steel PFC waler beam at roof level, fixed into concrete bond beams or skin walls with thru bolts or concrete screws.

Works Methodology

Were the Guinness Street façade to be retained the approach would consist of providing temporary support, strengthening, and finally integrating into a new development behind. The expected works methodology steps are as outlined below and summarised in the appended sketches:

- Install temporary support
Suitable placement for the temporary props to minimise damage of the existing façade and decorative elements. A proprietary propping solution would be installed between ground level and horizontal waler beam located below the existing parapet. Concrete pads being required at ground level to resist uplift forces from the inclined props. To support the outer veneer during demolition and skin wall construction, temporary vertical proprietary stanchions would be required spanning from ground level to the waler beam.
- Demolition of existing building
Carefully planned demolition of the existing structure to the rear of the southern façade would then be carried out to make way for new development. To simplify the structural load path required to support the retained façade, the proposed demolition would look to include the return walls to the east and west of the street frontage façade. Leaving just the southern elevation façade to be tied into the new structure.
- Removal of interior wythe
Upon completion of the general demolition works, the removal of the interior wythe of the retained façade wall would commence. This would reduce demands on the foundation for planned underpinning works. It would be recommended that at this point, an extensive investigation into the condition of the veneer be performed prior to progressing strengthening works.
- Existing foundation underpinning and strengthening
Underpinning works will commence in isolated regions of the existing foundations. Underpinning is expected to involve excavation both sides of the existing foundation, installing screw piles either side, followed by casting new reinforced concrete pile caps. The pile caps on the internal side will be tied together with a new reinforced concrete tie-beam to distribute the foundation demands.
- Skin wall
With the interior wythe layers removed, the retained façade would require strengthening to provide support. The recommended approach would be to install a new reinforced concrete 'skin wall' behind the existing veneer. Prior to pouring the skin wall, preparation works such as repairs to mortar, seal coating bricks, and installation of new Helifix brick ties. The new insitu skin wall would be poured in small lifts to reduce outward pressure acting on the preserved veneer. The external vertical RMD soldiers would help provide support during these pours.

- New building development

Any new development behind the retained façade would be required to provide out-of-plane restraint to the skin wall at roof level. WSP recommend using a horizontal PFC waler beam (approximately 250PFC) fixed to the skin wall with mechanical anchors using pairs of Hilti HST3 M16 (or similar) at 400mm centres.

The foundation of the new development could look to be completely independent from the façade foundation strengthening or be integrated into its design.

Further Considerations

Further considerations during the propping, demolition or strengthening for the proposed options include:

- Hidden damages – Investigations to date indicate have been non-intrusive and have observed minimal damage or deterioration in the southern façade and interior courtroom walls. However, unforeseen damage may be discovered once the interior wythe or linings are removed.
- Loss or damage of decorative elements – The existing street frontage façade is relatively simple, with small and isolated decorative elements. Temporary supports will be installed in front of these features, with timber packing placed behind to provide adequate clearance. WSP anticipates that a temporary works contractor can install the required propping without damaging architectural features. Positive fixing to the façade will typically involve through bolts, which will be patched and made good upon completion.
- Existing construction – Limited information is available for the construction of the southern façade wall and detailing may vary to what is expected. This may have some implication on the strengthening detailing.
- Current levels and geometry associated with the façade may also create alignment issues associated with any replacement building used for contemporary office or hospitality occupation.
- Finished floor levels of the existing façade entrance may not be compatible with proposed finished floor levels for a new building set by the West Coast Regional Council to manage flood risk.
- Possibility for displacement incompatibility between retained façade and the new building to the rear as the contemporary building would likely utilise modern steel or timber frame construction. Meaning the new building could have greater 'flexibility' compared with the stiffer concrete and masonry heritage façade. As the façade is single storey the effects of this would be low but it may require the heritage façade to be seismically isolated from the new building. Complicating architectural and structural engineering detailing. Alternatively, the new building development could be designed using a low drift structural system (i.e. utilising a steel concentrically braced frame) that might not be preferable with the proposed architectural layout.
- Underpinning – Underpinning works will be complex due to the proximity of manual excavation and piling works adjacent to the temporary props and facade. The excavating and piling contractor may need to temporarily remove braces to gain access to carry out foundation works. This is expected to be incorporated into the contractor's construction methodology to mitigate risks to health and safety and protect the retained façade.

- Extent of site works – The site's proximity to Guinness Street may require temporary closure of the footpath during propping and strengthening to allow adequate space for props and construction activities.

Limitations

- Conceptual level calculations have been completed to quantify member sizes, foundations or fixings.
- These conclusions are formed on the findings of previous WSP investigations and reports that are based on non-intrusive investigations.

Summary

This review considers preserving the southern, street-facing, façade along Guinness Street, which WSP understands holds the highest heritage value and is in relatively better condition. The retained façade could then be integrated into a new development behind.

The approach to retain the Guinness Street façade would involve temporary propping, removal of the rear structure and interior brick wythe, foundation underpinning, and installation of a reinforced concrete skin wall behind the original brick veneer to provide long-term support.

As identified, there are several unknowns such as the true condition of the façade veneer, displacement compatibility, and alignment/level issues with a new building development that would arise from the retention of the Guinness Street façade.

Should you wish to discuss any of the above information further, please don't hesitate to get in touch.



Jamie Lester

Technical Director – Building Structures

TEMPORARY RMD SLIMSHOR VERTICAL SOLDIERS TO SUPPORT VENEER PRIOR TO REMOVAL OF INTERIOR WYTHE. SPACING AT NO LESS THAN 1.0m. CONNECTED TO WALER BEAM AND LOCALISED OR STRIP FOOTING AT GROUND LEVEL.

AFTER DEMOLITION IS COMPLETED THE INTERIOR WYTHE TO BE REMOVED

ALL EXISTING STRUCTURE BEHIND RETAINED GUINNESS STREET FACADE TO BE DEMOLISHED

EXISTING BUILDING TO BE DEMOLISHED

WALER BEAM FIXINGS TO BRICK FACADE TO ALLOW FOR PAIRS OF M16 G8.8 HDG THROUGH BOLTS AT 400mm CRS. INSTALL WITH STEEL 200x80x10mm BACKING PLATES.

TEMPORARY 200PFC (OR RMD SLIMSHOR SOLDIER) WALER BEAM. INSTALLED BELOW EXTERNAL DECORATIVE CORNICE. TIMBER PACKING REQUIRED TO OFFSET WALER FROM VENEER DETAILING.

TEMPORARY RMD SLIMSHOR RAKING SOLDIERS. SPACING SHOULD NOT EXCEED 2.0m INTERVALS.

TEMPORARY PRECAST PADS FOR PROPS. 1000x1000x1000mm

STAGE 1:

TEMPORARY PROPPING & DEMOLITION

NEW REINFORCED CONCRETE PILE CAP 1000x1000x800mm ALLOW FOR 80kg/m³ OF REINFORCING

NEW RC TIE BEAM ACROSS PILE CAPS. ALLOW FOR 40kg/m OF REINFORCEMENT

PILE CAPS AND FOUNDATIONS TO BE INSTALLED IN OPPOSING PAIRS.

EXTENT OF EXISTING, RETAINED, FOUNDATION

INDICATIVE PUBLIC FOOTPATH

GUINNESS STREET

STAGE 2:

FOUNDATION IMPROVEMENTS

PRIOR TO PLACEMENT OF RC SKIN WALL, REAR OF FACADE VENEER TO HAVE HELIFIX (OR SIMILAR) POST INSTALLED BRICK TIES TO BE CAST INTO SKIN WALL. INSTALLED AT APPROXIMATELY 400mm CRS EACH WAY

CONSTRUCT NEW REINFORCED CONCRETE SKIN WALL BEHIND FACADE. REAR OF EXISTING BRICK FACADE TO BE TREATED WITH SEALER. ALLOW FOR 1 LAYER YD16 AT 300 CRS, EACH WAY.

INDICATIVE PUBLIC FOOTPATH

GUINNESS STREET

STAGE 3:

INTERNAL FACADE SUPPORT IMPROVEMENTS

REAR ELEVATION OF RETAINED FACADE VENEER TO BE SPRAY COATED WITH SEALER TO PREVENT MOISTURE INGRESS.

ARCHITECTURAL FLEXIBILITY PROVIDED BEHIND RETAINED FACADE

NEW BUILDING FOUNDATION CAN BE TIED INTO RC TIE BEAM

NEW BUILDING TO PROVIDE ROOF LEVEL RESTRAINT TO STRENGTHENED SKIN WALL. ALLOW FOR NEW 250PFC WALER BEAM FIXED TO SKIN WALL USING PAIRS OF HILTI HST3 M16 ANCHORS AT 400 CRS.

INDICATIVE NEW BUILDING

INDICATIVE PUBLIC FOOTPATH

GUINNESS STREET

PILE CAPS CONCEALED BY FINAL LANDSCAPING

STAGE 4:

NEW BUILDING CONSTRUCTION AND TYING INTO EXISTING FACADE

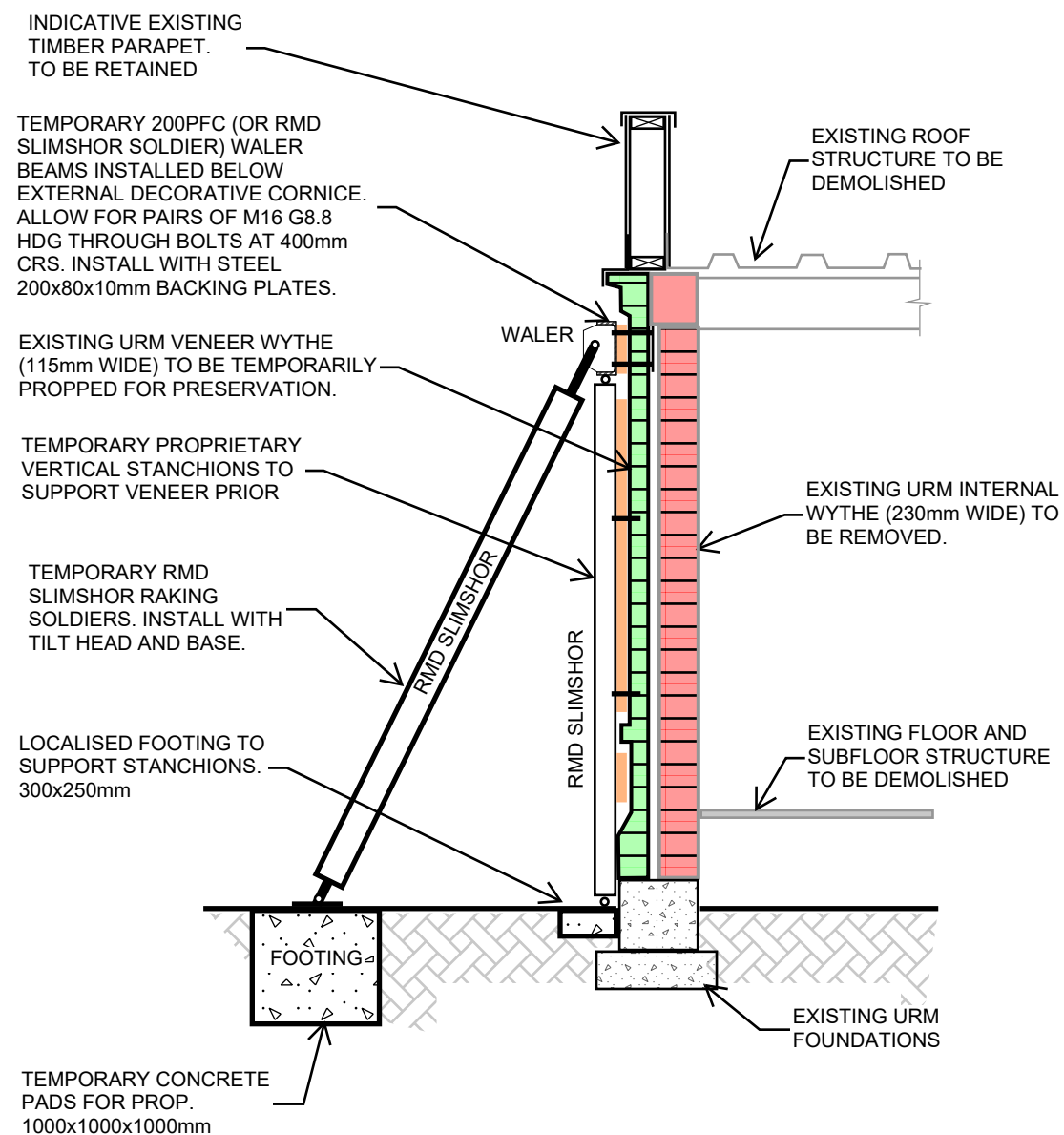


Project
MINISTRY OF JUSTICE
OLD GREYMOUTH COURTHOUSE
Title
FACADE RETENTION OPTION
INDICATIVE STAGING PLANS

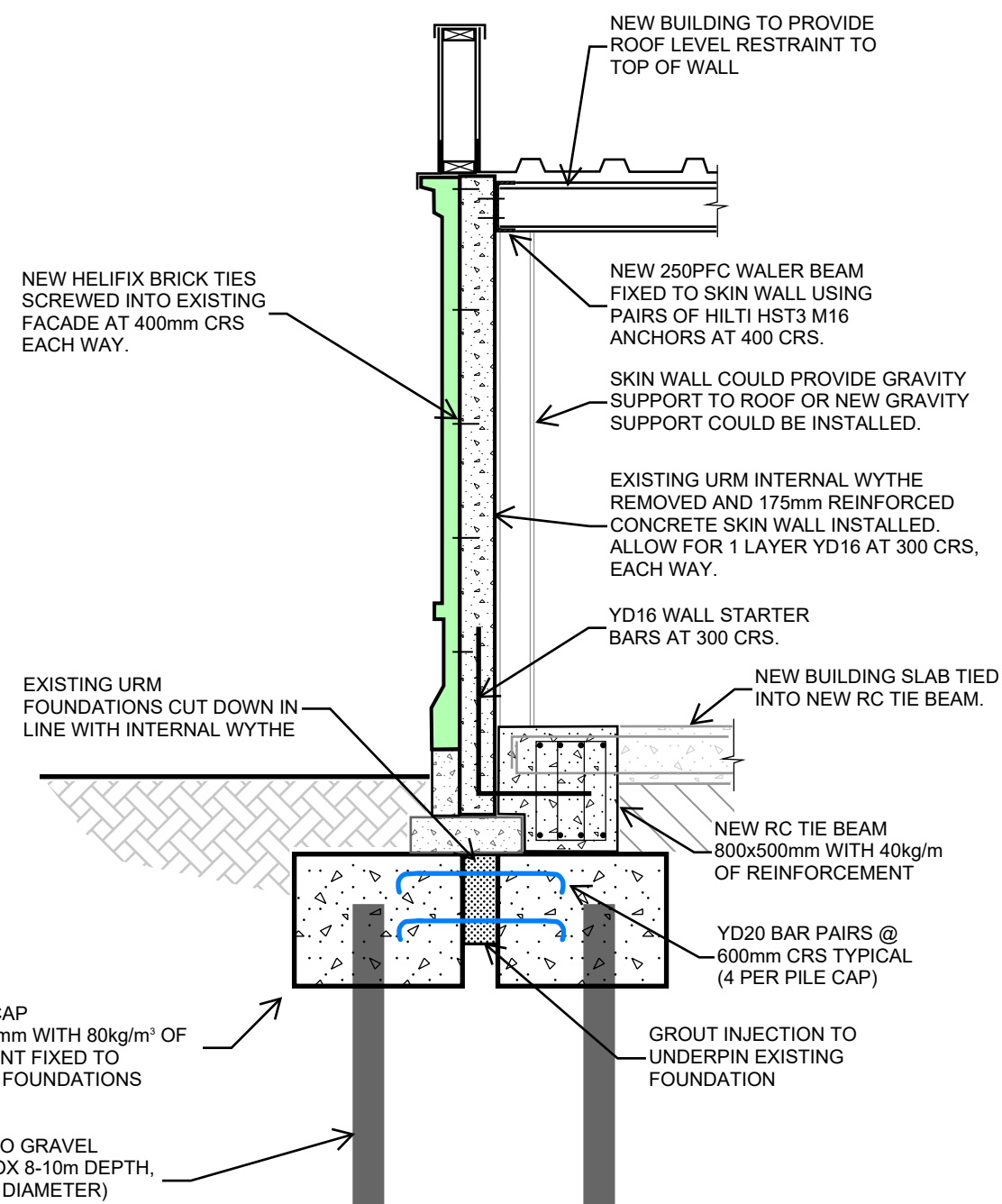
Prepared by
H. CLARKE
Checked by
J. LESTER

Job No.
6-DP545.02
Sketch No.
SK01

Date
30/05/2025
Revision
0



TEMPORARY PROPPING AT COMMENCEMENT OF CONSTRUCTION
(NTS)



PERMANENT FACADE STRENGTHENING AND FOUNDATION IMPROVEMENTS
(NTS)



Project
MINISTRY OF JUSTICE
OLD GREYMOUTH COURTHOUSE
Title
FACADE RETENTION OPTION
FACADE SECTIONS

Prepared by
H. CLARKE
Checked by
J. LESTER

Job No.
6-DP545.02
Sketch No.
SK02

Date
30/05/2025
Revision
0



25 November 2024

John Rossetter
Project Manager Capital Delivery
Ministry of Justice
John.Rossetter@justice.govt.nz

Greymouth District Court – Old Courthouse Seismic Strengthening Scheme

Dear John,

As requested, please find outlined below our summary of the structural condition of the Old Greymouth Courthouse, and the 100%NBS (IL2) strengthening scheme.

Background

WSP has been engaged by the Ministry of Justice to provide a scheme seismic strengthening design to 100%NBS (IL2) for the Old Greymouth Courthouse building located at 8 Guinness Street.

WSP carried out a seismic assessment of the Old Greymouth Courthouse in 2019. A condition assessment was carried out at this time also. Seismic strengthening was identified as part of this work to a 67%NBS (IL2) level. It is noted the Greymouth Courthouse is a heritage building and is listed on the District Plan as a Historic Place Category 1.

As part of the overall assessment of MoJ services provided in Greymouth, an understanding of the Old Courthouse is needed. To progress this understanding, the extent of seismic strengthening to 100%NBS (IL2) is required to inform cost estimation.

Scope

The scope of this scheme seismic strengthening design includes the following:

- Review of the available original construction documentation and previous Old Courthouse DSA report
- Non-intrusive visual inspection of the building by a WSP Engineer to check for any obvious sign of deterioration since the 2019 report
- Preparation of an updated strengthening concept to 100%NBS (IL2)

Building Description

The Old Greymouth Courthouse is an unreinforced brick masonry (URM) building constructed circa 1912 and is a single storey structure with a floor plan of approximately 650 m². The roof is split level, with a raised section over the central courtroom area.

The double-brick interior wythe of the perimeter walls are 3.8 metres high and provide resistance for gravity and lateral loads. The single-brick exterior wythe is used as façade veneer and is tied to the interior wythe by means of cast iron masonry ties through the

50mm cavity in-between. The internal walls of the courtroom are 510 mm thick comprised of 4 bricks. The roof diaphragms are light-weight timber trusses with timber sarking. Foundations consist of brick strip footings located under wall locations of the structure. Brick footings are also in place as gravity support to the timber floor joists.

The building is in poor condition both internally and externally and is understood to have been unoccupied since 2007. The site is closed from public access.

Structural Systems

The lateral and gravity load resistance is primarily provided by means of the unreinforced brick masonry walls. The internal URM walls, which form the main central courtroom are comprised of 4 bricks with a cavity dividing them. The top section of the courtroom walls contains a concrete bond beam.

The perimeter URM walls are made of 2 bricks with a single brick external veneer. The walls contain a large number of openings, approximately 30%. Concrete lintel beams are in position above the window cavities. A separate lintel is used for the internal and external wythe of the wall, creating a separation between the two layers of wall.

Internal partition walls are made up of a single brick and are supported at the top edge by the roof diaphragm. The Internal walls are not load bearing walls in the structure.

The original roof diaphragms, which are in place at the lower roof levels, comprise of light-weight timber trusses at 800 mm centres and horizontal timber sarking. The upper roof level was replaced in 1968 with timber glulam portals spaced at 3 m centres with diagonal timber sarking.

For further details regarding the structural systems, refer to the 2019 WSP Opus Old Greymouth Courthouse Building Assessment report.

Site Inspection Summary

The following is a summary of the findings from the site visit of the Old Greymouth Courthouse carried out by WSP on the 14th of November 2024.

The non-intrusive visual inspection revealed that the general condition of the structural elements has deteriorated since the last visit in 2019. The following comments highlight the key observations. For more detailed information, please refer to the 2019 WSP Opus Old Greymouth Courthouse Building Assessment report.

Exterior Façade

The façade veneer bricks and mortar are in very poor condition. There are extensive cracks in the veneer in some areas, and the brick ties have corroded, as shown in Figure 1. Some bricks are in poor condition, and mortar is also in poor condition. Visible bowing of the veneer walls on the western side of the building has increased by approximately 50 mm since the last visit, as shown in Figure 2. The western wall external veneer is nearing the point of out-of-plane failure due to its deteriorated state. The front wall facing the street is plastered and appears to be in better condition than the exposed brick walls.



Figure 1. Significant cracks in western external façade. The 2019 photo is shown on the left for comparison



Figure 2. Visible bowing in western external façade. The 2019 photo is shown on the left for comparison

Window Lintel Beams

The lintel beams in the external brick veneer have rotated outwards and cracked around the edges of the beam. This is shown in Figure 3. The visible rotation is most likely caused by the brick veneer bowing outwards under pressure from corrosive scaling of ties. No cracks are visible on the lintel face.



Figure 3. Cracks to external concrete lintels

Interior Perimeter Walls

Significant cracking is present along the top edge of the internal north and west perimeter walls, as shown in Figure 4. Cracks are also present along the top edge of the partition walls perpendicular to the western wall.



Figure 4. Cracking along top interior edge of perimeter walls

Courtroom Area Roof

It was observed that the condition of the Courtroom Area roof structure remains satisfactory, with no obvious structural deterioration since the previous inspection. Ceiling tiles have fallen down, exposing the structure over much of the ceiling, as shown in Figure 5. The glulam rafters appear to be in reasonable condition. No delamination was observed.



Figure 5. Roof structure over courtroom area

Foundations

No additional issues were identified with regards to the building's foundations.

Summary

In summary, the condition observed reflects previous observations that the building is in a poor state. Some deterioration of the external walls has increased since the 2019 site visit and report. There is concern that the outer veneer of the west wall has continued to deflect over time and is nearing the point where it could collapse in a storm event or minor earthquake.

Conceptual Strengthening Scheme

The 2019 WSP Opus seismic assessment found the building to be rated at less than 34% *NBS* (IL2) and provided conceptual strengthening to reach 67% *NBS* (IL2), refer to report for more detail. The previous strengthening scheme has been updated to reach 100% *NBS* (IL2) and is summarised as follows:

- Install a reinforced concrete foundation beam around the building's full perimeter and fix it to the existing URM strip foundation.
- Install a grid of concrete foundation beams to improve the existing foundations and connect to the perimeter foundation beam.
- Install screw piles, 8-10m deep, around the building perimeter.
- Install micro piles under courtroom wall foundation strengthening.
- Provide steel cross bracing between portal knees to improve out of plane capacity.
- Remove internal URM single wythe walls and replace them with timber stud walls with plywood lining.
- Remove all URM chimneys from the ceiling cavity to floor level. These could be replaced with brick veneer fixed to reinforced concrete and a concrete foundation.

- Remove existing brick veneer on all perimeter walls. Replace with 200mm reinforced concrete walls helifixed to the existing internal structural wythe. Install a new concrete bond beam on top.
- Install connection between courtroom double URM walls. Install a 200mm doubly reinforced concrete wall on the external face of the URM walls.
- Remove existing ceiling linings and replace them with 19mm plywood lining.
- Improve connection of the timber truss and diaphragm to URM walls

The 100%NBS (IL2) concept strengthening scheme is presented through illustrative sketches as attached.

To improve the building's condition, it is necessary to reline the interior walls and ceilings where moisture damage has occurred.

Heritage considerations

Heritage considerations may impact some of the strengthening. With the scheme presented, the internal spaces will be largely retained as original, subject to any re-plastering and replacement linings. The chimneys can be rebuilt to replicate the original chimneys. The exterior brick walls will change appearance with a reinforced concrete outer wythe.

Limitations

- The provided scheme design is conceptual only, no detailed calculations have been undertaken.
- No geotechnical information has been considered / no site-specific geotechnical information available.
- No intrusive testing has been undertaken.
- Condition-related works and non-structural work is not included, but needs to be allowed for in any pricing.

Summary

Following a site visit, a strengthening concept has been completed for the Old Greymouth Courthouse. The courthouse has been unoccupied for some time.

The site visit found some discernible deterioration in the condition, notably the west elevation has brick veneer that is bowing significantly, opening up a gap to the structural wall behind which has increased since the last visit in 2019.

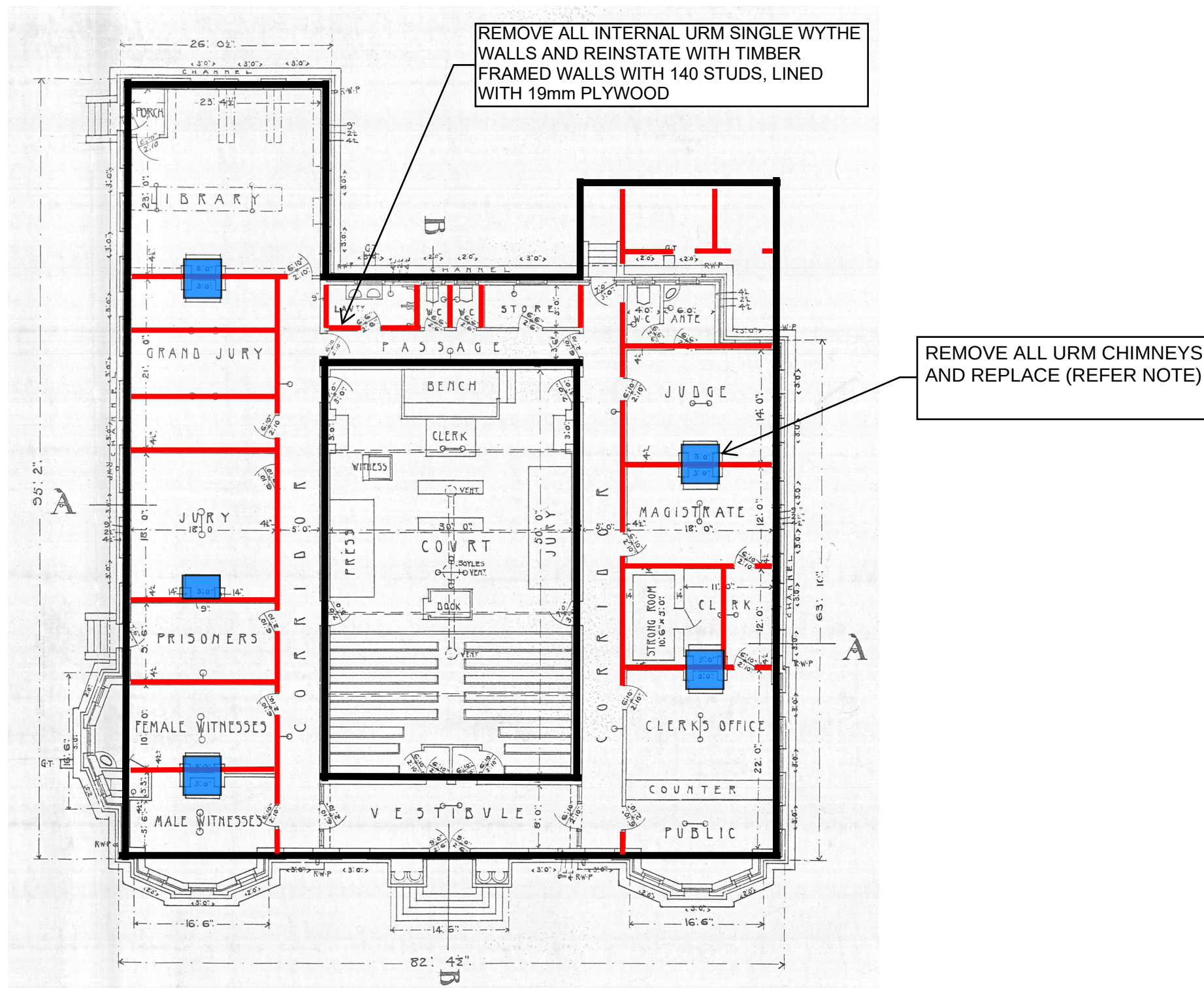
Due to this outward deflection, this veneer is considered to have an elevated risk of locally falling outward during either a storm event or minor earthquake. It is recommended that access is restricted in this area in the short term, if it is not already restricted. No further immediate action is considered necessary, as the building is unoccupied. The distance to the boundary is similar to the height of the wall, and so any falling bricks are expected to remain within the property. There is a transformer surrounded by a wire fence which could possibly be affected if the veneer fell outward. Regular monitoring is recommended.

A strengthening concept to 100%NBS (IL2) has been identified. This concept requires replacement of the non-structural internal walls with lightweight framing and strengthening of the remaining brick walls both internally and externally using reinforced concrete. Additional foundations are also proposed for the remaining brick walls to control settlement. Roof connections and diaphragms are also proposed and reinstatement of key internal features, such as the chimneys, in a strengthened form is proposed.

Should you wish to discuss any of the above information further, please don't hesitate to get in touch.

A handwritten signature in blue ink that reads 'Jamie Lester'.

Jamie Lester
Technical Director – Building Structures



INTERNAL WALL PLAN

NOTE: AN ALTERNATIVE APPROACH TO RETAIN THE BUILDING'S HERITAGE VALUE IS TO REPLACE URM CHIMNEYS WITH VENEER OF BRICK DIRECTLY FIXED TO A NEW REINFORCED CONCRETE SHAFT 175mm THICK WITH 80 kg/m3 OF REINFORCEMENT. INSTALL 3x3x0.8m DEEP REINFORCED CONCRETE FOUNDATION PAD ON 8 MICROPILES

NOTE: GENERAL CONDITION RELATED ITEMS ARE NOT ADRESSED WITHIN THIS STRENGTHENING SCHEME

	Project	Prepared by	Job No.	Date
	OLD GREYMOUTH COURTHOUSE	SUSAN EATSON	6-DP545.02	25/11/2024
	Title	Checked by	Sketch No.	Revision
	SCHEME STRENGTHENING DESIGN TO 100% NBS (IL2)	JAMIE LESTER	SK02	-

REMOVE BRICK VENEER ON ALL PERIMETER WALLS AND INSTALL 200mm REINFORCED CONCRETE WALL WITH 80 kg/m3 OF REINFORCEMENT TO THE OUTSIDE, ATTACHED TO THE EXISTING INTERNAL URM WYTHE WITH HELIFIX TIES @ 400mm CRS E.W. FINISH IN RENDER TO MATCH ORIGINAL FACADE.

REMOVE TIMBER LINING ON INTERNAL FACE OF THE COURTROOM WALLS AND INSTALL 200mm REINFORCED CONCRETE WALL WITH 80 kg/m3 OF REINFORCEMENT TO THE OUTSIDE, ATTACHED TO THE EXISTING URM WYTHE WITH HELIFIX TIES @ 400mm CRS E.W.

INSTALL REINFORCED CONCRETE
BOND BEAM WITH 80 kg/m³ OF
REINFORCEMENT

REMOVE BRICK VENEER AND CORRODED TIES ON ALL PERIMETER WALLS. INSTALL DOUBLY REINFORCED 200mm CONCRETE WALLS, HELIFIX TO EXISTING INTERNAL WYTHE. RENDER TO MATCH ORIGINAL FRONTAGE

REMOVE RENDER OF INTERNAL FACE OF WALL AND REPAIR BRICKWORK CRACKS
--

EXISTING 2 BRICK
URM WALL

YD20 BAR PAIRS @ 600mm
CRS TYPICAL

GROUT INJECTION TO UNDERPIN
EXISTING FOUNDATION

INSTALL REINFORCED CONCRETE FOUNDATION BEAM AROUND FULL PERIMETER OF BUILDING ON THE EXTERNAL SIDE, 800x400mm. LOCALIZED BLOCKS ON THE INTERNAL SIDE TIED THROUGH

PERIMETER WALL PLAN

URM STRENGTHENING DETAIL (NTS)

NOTE: AN ALTERNATIVE APPROACH TO RETAIN THE BUILDING'S HERITAGE VALUE IS TO DECONSTRUCT AND REBUILD THE BRICK VENEER, AND INSTALL THE REINFORCED CONCRETE WALL ON THE INSIDE. THIS METHOD WOULD REQUIRE TEMPORARY PROPPING

NOTE: GENERAL CONDITION RELATED ITEMS ARE NOT ADRESSED WITHIN THIS STRENGTHENING SCHEME



Project	Prepared by	Job No.	Date
OLD GREYMOUTH COURTHOUSE	SUSAN EATSON	6-DP545.02	25/11/2024
Title	Checked by	Sketch No.	Revision
SCHEME STRENGTHENING DESIGN TO 100% NBS (IL2)	JAMIE LESTER	SK03	-



OPUS

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Building Assessment

Old Greymouth Courthouse

8 Guinness Street
Greymouth



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Document Details:

Date: 14/03/2019
Reference: 5-C3788.00
Status: Draft

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Approved for Release By

Carl Ashby
Wellington Manager, Structural Engineering

Document History and Status

Revision	Date	Author	Reviewed by	Approved by	Status
00	01/02/2019	HH	US	CA	Client Issue
01	14/03/2019	HH	US	CA	Client Issue

Revision Details

Revision	Details
00	Issued for client review
01	Concept strengthening scheme added for client review

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Executive Summary

Background

WSP Opus carried out a Detailed Assessment of the Old Greymouth Courthouse building located at 8 Guinness Street, Greymouth. The assessment consists of two parts; a Condition Assessment of the current state of the structure and a Detailed Seismic Assessment (DSA) in accordance with the July 2017 MBIE Seismic Assessment Guidelines (The Guidelines).

The purpose of the assessment was to determine the overall condition, seismic performance and its seismic rating in terms of a %NBS rating in accordance with the latest MBIE earthquake engineering guidelines and methodology documents.

Building Description

The Old Greymouth Courthouse is an unreinforced brick masonry (URM) building constructed circa 1912 and is a single storey structure with a floor plan of approximately 650 m². The roof is split level, with a raised section over the central courtroom area.

The double-brick interior wythe of the perimeter walls are 3.8 metres high and provide resistance for gravity and lateral loads. The single-brick exterior wythe is used as façade veneer and is tied to the interior wythe by means of cast iron masonry ties through the 50mm cavity in-between. The internal walls of the courtroom are 510 mm thick comprised of 4 bricks. The top section of the courtroom walls were damaged and repaired in the 1968 Inangahua earthquake. The roof diaphragms are light-weight timber trusses with timber sarking. Foundations consist of brick strip footings located under wall locations of the structure. Brick footings are also in place as gravity support to the timber floor joists.

Building Condition

In general, the Old Greymouth Courthouse building is in a considerably deteriorated condition. The URM walls and render are damp in general, with under the floor area being water-logged. Large cracks are present along the top edge of the west and north internal perimeter walls. Large tapering cracks are also visible at the top edge of partition walls which are framing perpendicular to the perimeter walls. Damaged or missing gutter drain pipes along the north wall has led to sections of the walls to soak up and the moisture and appear to be constantly damp. The URM foundation pads of these walls were observed to be water-logged with visible signs of efflorescence damage due to water infiltration. The roof structure of the courtroom appears to be in good condition with no visible damage by inspection.

The brick façade veneer, in general, contains severely degraded bricks and mortar that are very soft and are able to be marked with finger pressure. The cast iron ties used to connect the veneer to interior wythe of URM have swollen up to 15 mm due to corrosion and many have sheared off. The corrosion in the ties has caused separation of mortar with the bricks of the exterior veneer and resulted in several bricks being loosely in place or have fallen out. The veneer on the west wall is considered to be at the point of failure with visible bulging outwards due to the severe cracking, loss of mortar, corroded ties, and deteriorated bricks.

Assessed Earthquake Rating

A simplified force based approach was adopted using an equivalent static analysis method to perform the DSA, which was carried out in accordance with the Seismic Assessment of Existing Buildings-Technical Guidelines for Engineering Assessments, MBIE dated July 2017.

The earthquake rating assumes that the building is classified as an Importance Level 2 (IL2) structure in accordance with the Australian/New Zealand Standard Structural Design Actions Part 0, AS/NZS 1170.0:2002.

A building with an earthquake rating less than 34% NBS fulfils one of the requirements for the Territorial Authority to consider it to be an Earthquake-Prone Building (EPB) in terms of the Building Act 2004 and a building rating less than 67% NBS is considered as an Earthquake Risk Building (ERB) by the MBIE Guidelines..

The results obtained from the DSA indicate that the building's earthquake rating is 15% NBS IL2, with the limiting factor being the out-of-plane capacity of the internal partition URM walls. Table A summaries the key findings of the DSA.

Following the New Zealand Society for Earthquake Engineering (NZSEE) grading scheme this building would, therefore, be classified as a Grade E building. This would represent a risk to occupants 25 times that expected for a new building, indicating a very high-risk exposure.

Table A. Summary of Detailed Seismic Assessment Results

Structural Element	Capacity/Demand Ratio	Comments
In-Plane Walls	25%	The governing walls for in-plane capacity are the perimeter walls, which are limited by diagonal-tensile shear
Out-of-Plane Walls (Internal partition walls)	15%	Capacity is limited by the displacement of the walls. Governed by the partition walls that are 1 brick thick and spanned vertically approximately 4 metres.
Diaphragms	50%	The limiting factor is the displacement demands of the flexible diaphragm on the face loaded URM walls
Exterior Brick Veneer Façade - General - Western Wall	20% 15%	Condition of the façade brick is very poor. Capacity is governed by out-of-plane actions. The western wall is considered to be near the point of failure due to its condition

Technical Summary

1. Building Information	
Building Name/ Description	Old Greymouth Courthouse
Street Address	8 Guinness Street, Greymouth, New Zealand
Territorial Authority	Grey District Council
No. of Storeys	One (split height roof levels)
Area of Typical Floor (approx.)	650 m ²
Year of Design (approx.)	1912
NZ Standards designed to	NA
Structural System including Foundations	Roof – Lower roof diaphragm consists on timber trusses with horizontal timber sarking and light-weight steel roofing iron. Upper roof diaphragm consists of timber glulam portals (1968) with diagonal timber sarking and light-weight steel roofing iron. Lateral Load Resisting System – Unreinforced brick masonry with perimeter walls 2 bricks and internal walls 4 bricks, Partition walls are 1 brick. Façade – Brick veneer with concrete plaster on the front wall. Foundations – URM Brick strip footings under wall locations with a concrete bedding, brick pads for floor joist supports.
Does the building comprise a shared structural form or shares structural elements with any other adjacent titles?	No
Key features of ground profile and identified geohazards	Building is located in Greymouth with close proximity to the Grey River and to the sea. The soil is classified as class 'D' with risk of liquefaction due to the sandy soil composition.
Previous strengthening and/ or significant alteration	As a result of damage from the 1968 Inangahua earthquake, the courtroom walls were reduced in height and a concrete bond beam was put in place along the top edge. The upper roof was replaced with timber glulam portals. Two separate ground-supported mezzanine levels were added to the western side of the building in the 1980s using steel framing. The existing brick parapets were replaced with timber framed parapet walls. The height of brick chimneys were reduced to below the timber sarking.
Heritage Issues/ Status	Historic Place Category 1, List number 5016
Other Relevant Information	A electrical box/transformer is positioned approximately 2 metres from the west wall of the building Cracking and bowing of exterior veneer walls is visible with deteriorated bricks and mortar and corroded brick tie. Cracking is also present on multiple perimeter walls (internal wythe) of the building. URM foundation pads of walls are water-logged and several interior walls are damp. Signs of localised settlement of north-west corner of foundations.

2. Assessment Information	
Consulting Practice	WSP Opus
CPEng Responsible, including: - Name - CPEng number - A statement of suitable skills and experience in the seismic assessment of existing buildings¹	Carl Ashby Principle Structural Engineer/ Structural Group Manager CPEng 178762 Carl is a Principle Structural Engineer with 25 years of consulting engineering experience and is a technically skilled design manager across a wide range of engineering projects. He has undertaken numerous seismic assessments, which forms part of his practice area.
Documentation reviewed, including: - date/ version of drawings/ calculations² - previous seismic assessments	- Original Drawings, PWD 26972, May 1911 - Greymouth Courthouse Alterations To Roof, April 1968, Ministry of Works - Structural Assessment, June 2000, Opus International Consultants - Greymouth Old Courthouse Detail Seismic Assessment Report, September 2011, Opus International Consultants
Geotechnical Report(s)	Not available. Inferred from studies conducted on nearby sites
Date(s) Building Inspected and extent of inspection	The following building inspections were carried out by WSP Opus: March 2000 – Foundations investigation involving digging down to examine extent and detailing of foundations. May 2000 – Top plate investigation involving the removal of roofing to examine connection detailing of roof diaphragm to walls. September 2001 – Visual inspection of western wall, exterior veneer and internal wythe. September 2011 – Visual inspection of full interior and exterior as part of a condition assessment. March 2014 – Visual investigation of exterior veneer of western wall, including photos and measurements. December 2018 – Full building visual investigation of external and internal walls, including photos, crack measurements, brick and mortar scratch tests, and lean measurements.
Description of any structural testing undertaken and results summary	Onsite scratch testing of bricks and mortar in distributed locations as per section C8 of the guidelines on both internal and external walls to determine the relative hardness of the materials. It was found that the mortar crumbled in the hand and could be raked out with a finger. Exterior bricks of façade veneer were soft and could easily scratch with a finger, internal bricks could be scratched with copper coin and were found damp
Previous Assessment Reports	Greymouth Old Courthouse Detailed Seismic Assessment Report, September 2011, Opus International Consultants
Other Relevant Information	No

¹ This should include reference to the engineer's Practice Field being in Structural Engineering, and commentary on experience in seismic assessment and recent relevant training

² Or justification of assumptions if no drawings were able to be obtained

3. Summary of Engineering Assessment Methodology and Key Parameters Used	
Occupancy Type(s) and Importance Level	Importance Level 2
Site Subsoil Class	Subsoil Class D – NZS1170.5
For a DSA:	
Summary of how Part C was applied, including: - the analysis methodology(s) used from C2 - other sections of Part C applied	The seismic assessment of the unreinforced brick masonry walls was carried out using a force based approach, using tributary areas to calculate the demands on the URM walls Displacement critical failure modes, such as out-of-plane capacities of URM walls, were assessed using the methods outlined in section C8 of the Guidelines. The brick veneer, chimneys, and roof members were assessed using parts loading in accordance to NZS1170.5
Other Relevant Information	No

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4. Assessment Outcomes		
Assessment Status (Draft or Final)	DRAFT	
Assessed %NBS Rating	15% NBS (IL2)	
Seismic Grade and Relative Risk (from Table A3.1)	E, Very high risk	
For a DSA:		
Comment on the nature of Secondary Structural and Non-structural elements/ parts identified and assessed	Parapet – The brick parapet was removed in 1968 and replaced with a light-weight replica constructed out of timber, considered not critical. Heavy ornaments – Heavy ornaments were removed from the roof in 1968 and replaced with timber. Chimneys were removed to below roof level, but some are still in place in the ceiling cavity. External veneer – Building contains a single brick veneer on the perimeter walls, 3.8 m in height, western walls are visibly bowing outwards approximately 2.5% Internal partition walls – The internal walls are 3.8 m in height, are one wythe thick, supported at the top edge by the roof diaphragm, and deemed to be non-load bearing	
Describe the Governing Critical Structural Weakness	The governing critical structural weakness of the Old Greymouth Courthouse has been determined as the out-of-plane capacity of the internal partition walls, rated to 15% NBS (IL2). Walls are non-load bearing, 3.8 m high, and URM of one wythe thick. There is approximately 100 metres of internal walls in the building.	
If the results of this DSA are being used for earthquake prone decision purposes, and elements rating <34%NBS have been identified (including Parts) ³ :	Engineering Statement of Structural Weaknesses and Location The internal 3.8m single brick URM walls have insufficient capacity to withstand out-of-plane loading. The external brick veneer spanning vertically 4m contained no tie restraints, is extensively cracked and deteriorated, and is at the point of failure.	Mode of Failure and Physical Consequence Statement(s) Out-of-plane failure of the internal URM walls and exterior brick veneer. Failure would result in collapse of the single wythe walls, which is a height of 3.8 m. There is approximately 100 m of internal walls in the building. The external brick veneer failure would be the peeling off of the veneer with top edge at 4m height. Falling on to a driveway, emergency exit pathway and electrical service equipment.
Recommendations (optional for EPB purposes)	Remove and reinstate external veneer. Provide lateral restraint to internal partition walls and perimeter walls for out-of-plane loading. Provide increased in-plane capacity of perimeter walls and courtroom walls. Provide bracing in the upper and lower roof diaphragms and improve connectivity of roof trusses with the load bearing URM walls. A concept strengthening scheme is attached.	

³ If a building comprises a shared structural form or shares structural elements with other adjacent titles, information about the extent to which the low scoring elements affect, or do not affect the structure.

Contents

1	Scope	1
1.1	Objective	1
1.2	Sources of Building Data	1
1.3	Limitations	1
1.4	Buildings Regulations	1
2	Building Description	2
2.1	General Description	2
2.2	Structural Systems	3
2.3	Site Geotechnical Conditions	4
3	Building Timeline - Alterations and Damage	5
3.1	Damage	5
3.2	Alterations	6
4	Condition Assessment	7
4.1	Previous Site Inspections	7
4.2	Site Inspection by WSP Opus (Dec 2018)	8
4.3	Probable Cause of Damage	10
5	Seismic Performance of URM Buildings in New Zealand	11
5.1	Out-of-Plane Wall Failure	11
5.2	In-Plane Wall Failure	11
5.3	Diaphragm Flexibility and Strength	12
5.4	Corner Damage	12
5.5	Falling Hazards	12
5.6	Interior Partition Walls	13
5.7	Age of Construction and Deterioration over time	13
5.8	Brickwork and Mortar Quality	13
6	Detailed Seismic Assessment	14
6.1	Assessment Methodology	14
6.2	Seismic Loads	14
6.3	Material Properties	14
7	DSA Results	16
7.1	Capacity/Demand Ratio	16
7.2	Critical Structural Weakness	16
7.3	Assessment Results Summary	17
7.4	Secondary Risks	21

8	Conclusions.....	22
9	Recommendations.....	23
10	Proposed Concept Strengthening Scheme.....	24
10.1	Strengthening to Greater than 34 %NBS (IL2).....	25
10.2	Additional Requirements for Strengthening to Greater than 67 %NBS (IL2).....	25

Appendix A - Building Timeline

Appendix B - Site Inspection Summary

Appendix C - Commentary on Seismic Risks

Appendix D - Concept Strengthening Scheme

Appendix E - Original Drawings

Appendix F - DSA Calculations

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1 Scope

1.1 Objective

A Building Assessment of the Old Greymouth Courthouse, 8 Guinness Street, Greymouth, was carried out by WSP Opus. The assessment consisted of two parts. The first part involved carrying out a site visit to confirm the existing information from drawings and previous surveys as well as to determine the current state of the structure. In the second part, the information collected from the site survey was utilized to conduct a Detailed Seismic Assessment (DSA) of the building in accordance with the following seismic assessment guidelines (The Guidelines).

- The Seismic Assessment of Existing Buildings: Technical Guidelines for Engineering Assessments, July 2017, Version 1.

The Guidelines have been produced by New Zealand engineering technical societies in conjunction with the Ministry of Business, Innovation and Employment (MBIE) and the Earthquake Commission. The Guidelines came into force on 1 July 2017 and supersede the previous guidance published in 2006 by the New Zealand Society of Earthquake Engineering (NZSEE).

1.2 Sources of Building Data

1.2.1 Structural

- Original Drawings, PWD 26972, May 1911
- Greymouth Courthouse Alterations to Roof, April 1968, Ministry of Works

1.2.2 Previous Assessments

- Building Survey, February 1974
- Structural Report, June 2000, Opus International Consultants
- Condition Assessment Greymouth Courthouse Inspection, June 2011, Opus International Consultants
- Greymouth Old Courthouse Detailed Seismic Assessment Report, September 2011, Opus International Consultants
- Building Inspection, July 2014, Opus International Consultants

1.3 Limitations

This report and conclusions within are prepared for The Ministry of Justice in accordance with our clients brief and should not be relied on by other parties for any other purpose or use without written confirmation from WSP Opus of the purpose and suitability.

1.4 Buildings Regulations

The Building (Earthquake-prone Buildings) Amendment Act 2016 is the current amendment to the Building Act 2004 that sets the performance objectives for buildings and provides a system for managing earthquake-prone buildings that include the MBIE guidelines. The intent of the act is to protect people and property and therefore performance limits are set in terms %NBS as an ultimate limit state (ULS).

WSP Opus encourages the building owner to liaise with the appropriate Territorial Authority after the results of the DSA report have been discussed to comply with the regulatory expectations and time frames.

2 Building Description

2.1 General Description

The Old Greyouth Courthouse is an unreinforced brick masonry (URM) building constructed circa 1912 and is a single story structure with a floor plan of approximately 650 m². The roof is split level, with a raised section over the central courtroom area. Figure 1 shows the appearance of the building upon completion in 1912. The highlighted areas in the Figure indicate the parts that have undergone alterations in 1968. Figure 2 shows the current appearance of the building.

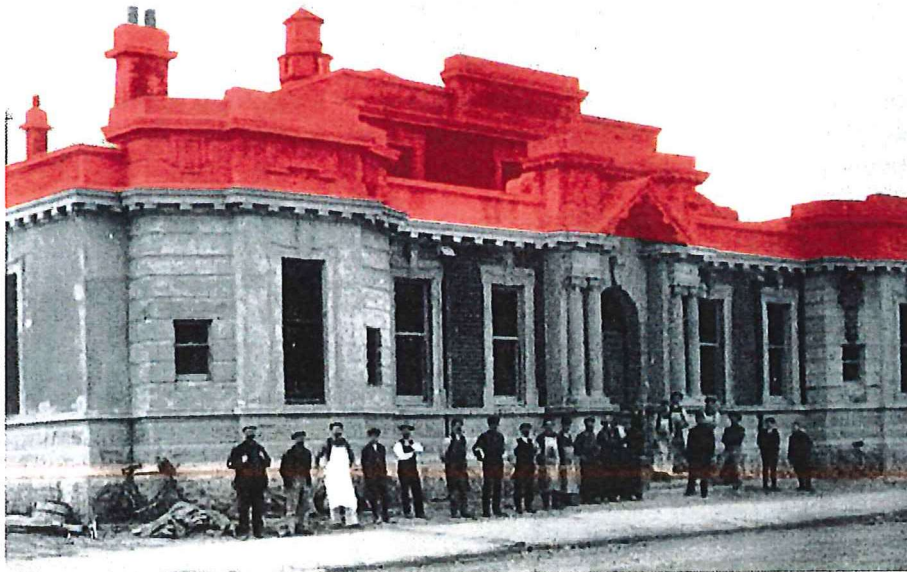


Figure 1. Photo of Building in Original State (source unknown)



Figure 2. Photo of Building in Current State

2.2 Structural Systems

The lateral load (seismic, wind etc.) and the gravity load resistance is primarily provided by means of the unreinforced brick masonry walls, which are 3.8 m high. The internal URM walls, which form the main central courtroom are 510 mm thick, comprised of 4 bricks with a cavity dividing them. The top section of the courtroom walls contains a concrete bond beam, which was installed in 1968 following the Inangahua earthquake that led to extensive damage of the upper section of walls and roof structure.

The perimeter URM walls are 410 mm thick, made of 2 bricks with a single brick external veneer. The walls contain a large amount of openings, approximately 30%. Concrete lintel beams are in position above the window cavities. A separate lintel is used for the internal and external wythe of the wall, creating a separation between the two layers of wall.

Internal partition walls are made up of a single brick and are supported at the top edge by the roof diaphragm. The internal walls are not load bearing walls in the structure. The layout and positioning of the walls in the building is shown in Figure 3.

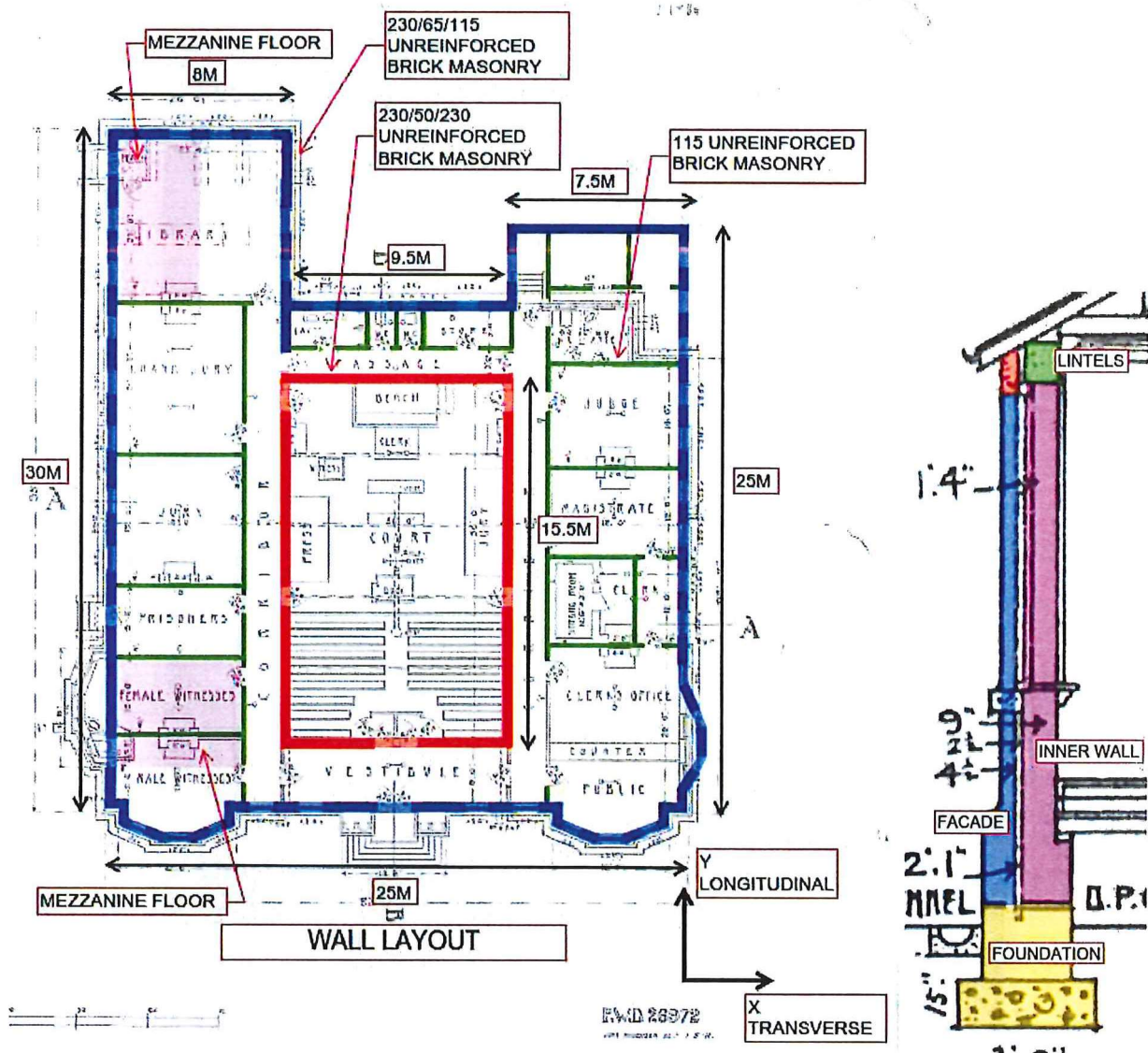


Figure 3. Plan Layout of Walls

The original roof diaphragms, which are in place at the lower roof levels, comprise of light-weight timber trusses at 800 mm centres and horizontal timber sarking. The upper roof level was replaced in 1968 with timber glulam portals spaced at 3 m centres with diagonal timber sarking.

Foundations consist of brick strip footings located under the wall of the structure. An investigation of the foundations in March 2000 found that the strip footing has a depth of at least 800 mm, with the internal and external sections of the wall connected as one to a concrete base. Brick footings are also in place to gravity support the timber floor joists. The original drawings of the building indicate that a damp proof course (DPC) was installed in the foundation footings. This was confirmed onsite to be a bitumen layer with a thicker mortar layer on top. The foundation layout is shown in Figure 4.

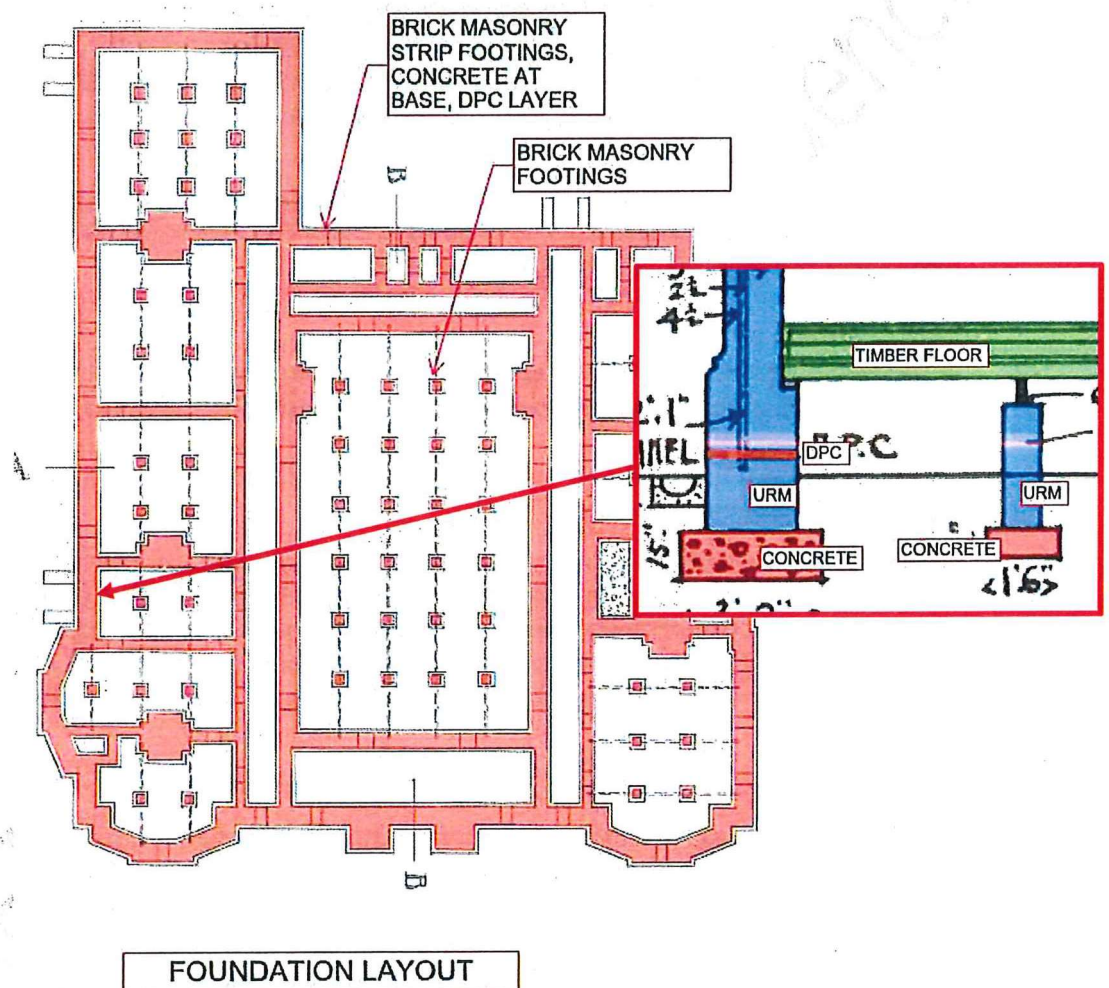


Figure 4. Plan Layout of Foundations

2.3 Site Geotechnical Conditions

There is no site-specific geotechnical information available for the location of the Old Greymouth Courthouse. The subsoil class has been considered as 'Class D' (deep or soft soil site), as per NZS1170.5. This is based on the knowledge that the Greymouth urban area is built on geologically young and unconsolidated sediments and on an extensive, level flood plain, and there is a very high potential for liquefaction risk due to the loose sandy layers expected.

3 Building Timeline - Alterations and Damage

The Old Greymouth Courthouse building has a history of damage and alterations, with large natural hazards such as earthquakes and flooding occurring early on. From records of information, past correspondence, old photos, and previous assessments carried out on the building, a clear picture of the history of the Old Greymouth Courthouse is able to be ascertained. Appendix A provides a detailed account of the information at hand as to the building history.

3.1 Damage

3.1.1 Earthquakes

Between the period of 1929 and 1968, the building experienced three relatively close proximity earthquakes of magnitude greater than 7. Reports from the 1929 Murchison earthquake, highlighted that damage had occurred to unreinforced brick masonry buildings in the Greymouth area. However, there is no specific information as to any reported damage to the Old Greymouth Courthouse.

During the 1968 Inangahua earthquake, the building suffered significant structural damage. Chimneys and parapets were severely damaged and the courtroom section of the building was evacuated until repairs could be completed.

3.1.2 Flooding

In September 1988, Greymouth experienced extensive flooding, which resulted in the Old Greymouth Courthouse having flood waters approximately 850 mm above the floor level. Due to gritty beach sand used in the interior wall plaster absorbing the moisture, dampness up to three-quarters of the wall height (2.8 m) was reported. Following drying the building out, the plaster lining crumbled.

In 1999, the Department of Courts raised concerns of structural cracks in the building that were continuing to grow. Cracks were first noticed in the building 2-3 years after the Greymouth flood. Cracks were present in the rear of the building, travelling from the ceiling line to the corners of windows. The structure was inspected following these concerns, which found the foundations to be sound and suggested repair options to remedy the cracks in the building.

3.1.3 Deterioration

A building survey carried out in 1974 reported the lime mortar was in a deteriorating but fair condition. This is the first report of cracks appearing in the structure, which were around the courtroom walls. The building was given a suggested replacement period of 12 to 15 years from the base year of 1965.

A structural report in 2000, highlighted the brick veneer was in a very poor condition with eroding bricks and cracked/missing mortar. Cracking in the building's walls was found to be extensive, predominately on the west and north areas of the building. It was concluded the veneer would not be water resistant and the building had reached the end of what would normally be its economic life.

A condition assessment conducted in 2011 found the condition of the building to be generally poor, particularly the exterior brickwork and corresponding linings to the western and northern walls. A reassessment of the exterior western wall confirmed the poor condition of the walls, with bricks and mortar missing or eroded in places and the piers bowing up to 70 mm in places.

3.2 Alterations

Following the 1968 Inangahua earthquake, which forced the evacuation of the Courthouse, a series of alterations were carried out. The main courtroom walls were reduced in height to 3.8 m, the same level as the other walls. The roof diaphragm over this section was also replaced with timber glulam portals, which were topped with diagonal timber sarking and roofing iron. Due to lessons learned from the earthquakes in the early 1900s, the heavy ornaments were removed from the building. This included removing the URM parapet and replacing it with a timber replica and removing brick chimneys from above the roof. Alterations of the building are summarised in Figure 5.

In the 1980s, two mezzanine levels were introduced into the building. A SHS framed mezzanine level sits in the north-west corner (law library) and has a floor area of approximately 30 m². A second mezzanine level is in place near the south-west corner overtop of the toilets; which is constructed out of timber and has a floor area of approximately 40 m².

From site investigations, past recorded correspondence, and photos taken at different stages of the buildings life, several other minor alterations to the structure have been noted.

- Removal of walls
- Introduction of walls
- Removal of doors – internal and external

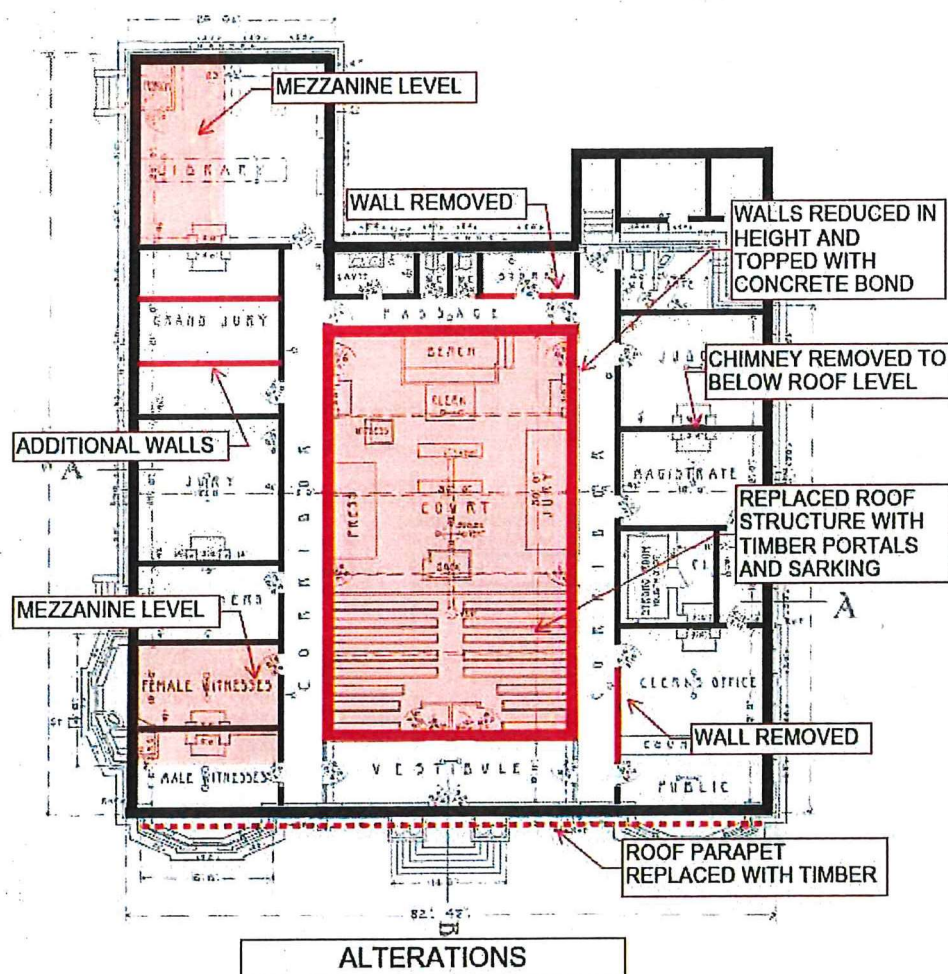


Figure 5. Alterations to the Original Structure

4 Condition Assessment

This section provides a brief account of the condition of the structure by collating information from the site investigation carried out by WSP Opus in December 2018 as well as from the previous conditions surveys on the building.

4.1 Previous Site Inspections

Since the Old Greyhound Courthouse opened in 1912, there have been multiple assessments on the condition of the structure. The two major damaging events of the building, the 1968 earthquake and the 1988 flooding, caused both short and long-term issues to the structure.

The first site inspection was undertaken in 1974, where there was minor cracking reported in the URM walls and the lime mortar was described as deteriorating but fair. The building was concluded to be in fairly good condition but recommended to be replaced by 1980. A review of the condition in 1999 found cracks that had formed along the top edge of the walls after the flooding were growing in length and size. These cracks were located on the western side of the building. The building was inspected in 2000 to report on cracking. It found the external brick veneer to be in very poor condition with a number of bricks eroding, many mortar joints cracked, and significant areas of the soft lime mortar missing. The veneer was deemed no longer water resistant. The building was again inspected in 2001, which found the cracks at the top of the walls had increased in size since the assessment the year prior. It was also suggested that the roof was bearing directly on the exterior veneer. In 2011, an in-depth condition assessment was completed, which found the condition to be generally poor, particularly the exterior brickwork and corresponding lining of the western and northern walls. A visual inspection of the exterior veneer on the western walls was done in 2014, which summarised that the condition had continued to deteriorate further with visible cracking and bowing of the piers. Figure 6 summarises the information gathered from the previous assessments.

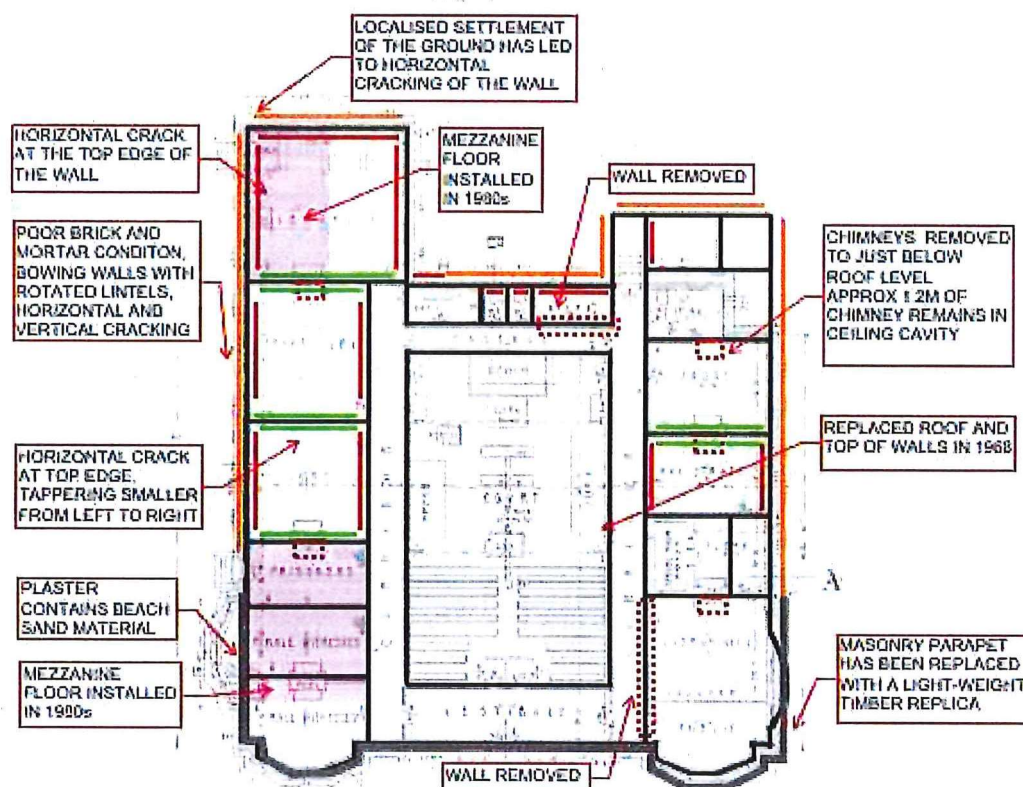


Figure 6. Summary of Knowledge from Previous Site Inspections

4.2 Site Inspection by WSP Opus (Dec 2018)

A site inspection on the 14th of December 2018 was carried out by WSP Opus to determine the current condition of the building. Appendix B provides a more detailed account of the condition of the different elements of the structure.

4.2.1 Building Exterior

Large areas of the building were found to be damp or wet. The foundations were waterlogged likely due to ineffective drainage from down-pipes. The DPC layer on the foundations was intact, however, above the layer the URM walls were still damp.



Figure 7. Damp Foundations with DPC Layer

Broken or missing drain pipes around the perimeter of the building has led to water travelling from the guttering and down the façade. This has accelerated the deterioration in these localised areas and caused dampness of the walls.

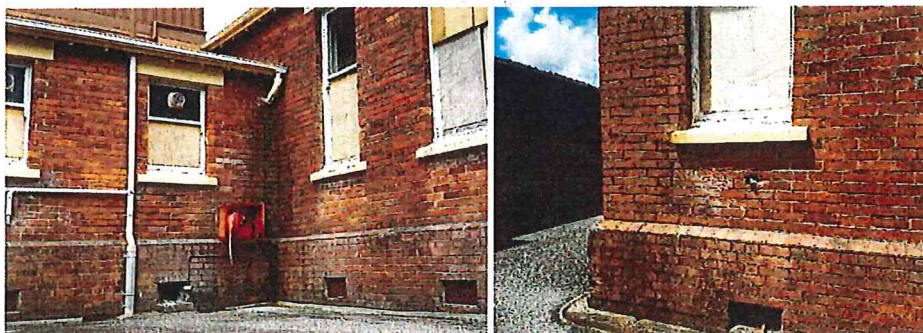


Figure 8. Dampness of Foundations and Walls

The condition of the façade veneer bricks and mortar is very poor. The mortar comprises of beach sand and is able to be raked out with finger pressure. The veneer is extensively cracked, brick ties have corroded and are no longer effective. Bowing of the veneer walls is visible by eye.

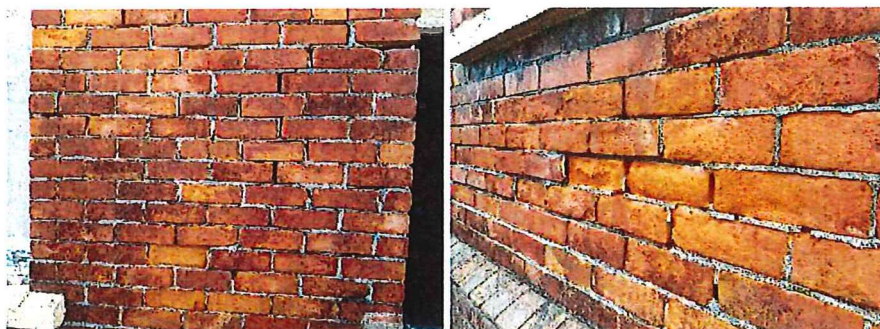


Figure 9. Poor Condition of Façade Veneer

4.2.2 Building Interior

Cracking is present along the top edge of the internal north and west perimeter walls. Cracks are also present along the top edge of the partition walls perpendicular to the western wall.



Figure 10. Cracking of the Internal Perimeter Walls

The internal walls contain a large amount of mould, indicating dampness of the interior walls to the full height of the wall. The mould was most prominent along the north wall.



Figure 11. Dampness of Internal Walls

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4.3 Probable Cause of Damage

From considering past investigations and assessments along with the site investigation in December 2018, we consider the probable cause of the damage observed in the Old Greyhound Courthouse to be rotation and settlement of the foundations. This along with deterioration and lack of maintenance over a period of time has led to the following damage being observed in the building;

- Bowing of exterior brick veneer
- Rotation of the concrete lintel of the brick veneer
- Expansion corrosion of steel ties in the brick veneer
- Crack along the top edge of the of the inside of the perimeter wall, below the concrete lintel
- Tapering crack of partition walls perpendicular to the perimeter walls, decreasing away from the perimeter wall

Damage is mostly observed along the full length of the building's western wall and sections of the northern wall. Subjecting the foundation strip footing to a rotation and settlement results in a tapering gap along the top of the partition. Bowing of the external veneer would result from the rotation of the support and resulting extra total height would be taken up by the expansion of the steel ties. Due to the structure containing a separate lintel for each wall, the veneer lintel would be free to rotate with the façade due to not taking load from the roof truss. The internal lintel would remain in position due to support from the roof and larger size. Bowing of the internal wall would, therefore, create a gap along the top each of the wall underneath the concrete lintel. Figure 12 illustrates how this damage could form from the rotation and settlement of the foundations.

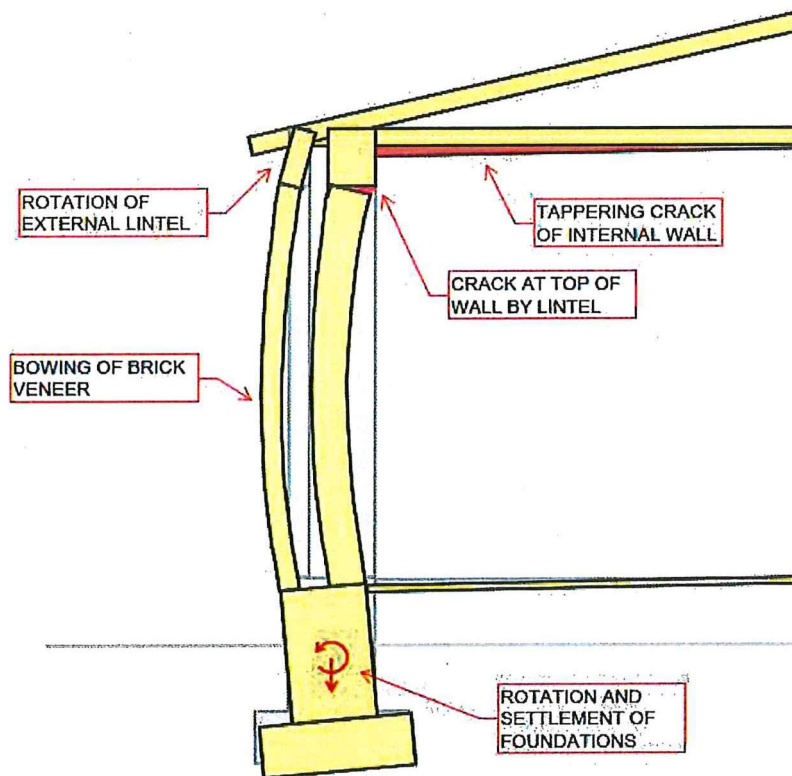


Figure 12. Diagram of Probable Cause of Damage

5 Seismic Performance of URM Buildings in New Zealand

The following failure modes and structural weaknesses are highlighted as potential issues for the Old Greymouth Courthouse building. They are some of the common modes of failure and issues in the URM buildings in New Zealand that are observed and reported in the literature after earthquakes.

Information sourced from;

- NZSEE, The Seismic Assessment of Existing Buildings, Technical Guidelines, 2017
- E L Blaikie and D D Spurr, Earthquake Vulnerability of Existing Unreinforced Masonry Buildings, EQC, Works Consultancy Services Limited
- Dmytro Dizhur and Jason Ingham, Seismic Improvement of Loadbearing Unreinforced Masonry Cavity Walls, BRANZ, University of Auckland

5.1 Out-of-Plane Wall Failure

Out-of-plane (OOP) loading on URM walls is one of the commonly occurring failure modes. Cracking and more substantial damage due to OOP loading has been observed frequently, even in moderate magnitude earthquakes. Failure results in cracking, bowing of walls, and collapse of the brick.



Figure 13. OOP Failure of URM Wall (BRANZ)

5.2 In-Plane Wall Failure

The main in-plane failure models in moderate-strong shaking intensities are reported to be:

- Cracks at the corner of openings
- Vertical and "X" cracking in spandrels and piers
- Horizontal cracking at top and bottom of piers

Diagonal cracking of walls and piers has historically been a serious cause of failure and collapse. In-plane rocking and sliding on horizontal flexural cracks can help absorb earthquake deformations.



Figure 14. In-Plane Failures of URM Wall (NZSEE Guidelines)

5.3 Diaphragm Flexibility and Strength

The diaphragm flexibility is more often the concern for URM walls instead of the floor diaphragm itself due to reduced lateral restraint at the top of the walls. It has been observed that damage of walls can occur due to excessive deflections of the diaphragm.



Figure 15. OOP Failure due to Diaphragm Displacement (NZSEE Guidelines)

5.4 Corner Damage

It has been frequently observed that corners of buildings are susceptible to damage and collapse due to concentrated forces. Vertical cracks at wall junctions can result in a separation of the exterior walls and increases their vulnerability to OOP loading.



Figure 16. Examples of Building Corner Failures (BRANZ)

5.5 Falling Hazards

Heavy items such as brick parapets and chimneys are recognised as a serious life safety risk due to their location and support conditions. Heavy ornaments placed at the roof level rely on cantilever actions to resist earthquake loading.



Figure 17. Failure of Secondary Elements (NZSEE Guidelines)

5.6 Interior Partition Walls

Interior partition walls are more vulnerable to earthquake demands as compared to load bearing URM walls due to their construction typically being only single wythe and absence of an overburden load except for their self-weight. As a result of this, both in-plane and out-of-plane failure modes are commonly reported in URM partitions.

5.7 Age of Construction and Deterioration over time

It has been observed that 'newer' buildings have performed better than 'older' buildings, referred to as pre-1930. The implication of this is that deterioration over time, in particular, the mortar and veneer ties, has a large impact in the overall damage that a building might experience.

5.8 Brickwork and Mortar Quality

The quality and condition of the brick and mortar used in the construction of a URM building have a significant effect on the overall strength of the structure. Poor mortar quality or deteriorated mortar has been linked to earthquake damage in URM buildings. Mortar quality is particularly critical in the upper sections walls where there is a smaller overburden force and high OOP loads.



Figure 18. Deterioration of URM Wall Elements (NZSEE Guidelines)

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6 Detailed Seismic Assessment

6.1 Assessment Methodology

The structure was assessed using the equivalent static analysis method prescribed in sections C2 and C8 of the Guidelines. Demands were proportioned as per the tributary/catchment area of each wall and were calculated as importance level 2 loading. Ductility capacity of the unreinforced brick masonry was taken as 1 and as 2 for the timber roof diaphragms. The capacity of the walls acting in-plane and out-of-plane were calculated as per section C8 of the Guidelines.

6.2 Seismic Loads

The following parameters have been considered to define the acceleration spectra from NZS1170.5:2004.

Table 1. Parameters for Seismic Loads – ULS

Parameter	Value	Comments
Site Subsoil Class	D	As per geotechnical assumptions
Period	<0.5 seconds	Assumed as per C8.10.2.2
Z	0.37	Seismic hazard factor for Greymouth
R _u (ULS)	1.0	Importance Level 2 – 1/500 yr RP
N(T,D)	1.0	No known near faults
K _R	1.0	As per table C8.15

The current assessment has been carried out considering the building as an Importance level 2 structure. An operating court building would be categorised as a 'major structure' as per NZS1170.0 and therefore, reconsidering the building as an importance level 3 structure would result in approximately a 30% increase in seismic demands.

6.3 Material Properties

A series of scratch tests were conducted on the bricks and mortar throughout the building where accessible during the site inspection carried out in December 2018 to help determine the probable material strengths. The Guidelines provide a relationship between material hardness and the probable strength, referred to as Scratch Test. Scratching the surface of the bricks and mortar with different materials/objects (finger, aluminium, copper) can determine the relative hardness of the materials.

For the perimeter walls, brick hardness was determined to be 'soft' and the mortar to be 'very soft'. For the internal walls of the building the brick hardness was taken as 'medium' as mortar as 'very soft'. The mortar of the external brick veneer was determined to be ineffective to the level of deterioration.

These values are based on the NZSEE Guidelines July 2017 C8.7 and in-situ scratch testing of the bricks and mortar. The values relate to the expected strengths of materials used in the year 1912 when the building was constructed. The DSA calculations in Appendix E provides a complete list of the material properties

6.3.1 Perimeter Walls (Interior Wythe)

As per the methodology set out in Section C8 of the Guidelines, on-site scratch tests were performed on the bricks and mortar around different areas of the building. There was limited access to the brickwork of the perimeter cavity walls. Figure 19 shows areas that were exposed. The bricks were able to be scratched with finger pressure and determined to be classified as soft. The brickwork is covered in render with similar properties to the mortar and is very moist, crumbling under finger pressure and removable using a copper coin.

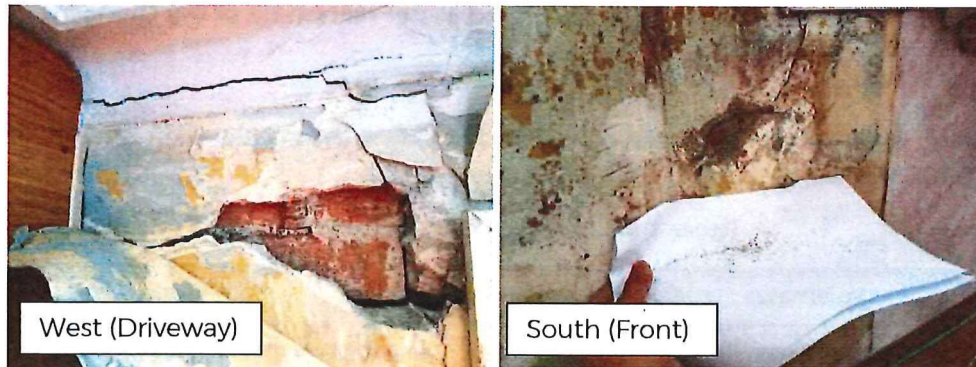


Figure 19. Condition of Bricks and Mortar on perimeter walls

6.3.2 Internal Walls

The internal walls (courtroom walls and partition walls) were inaccessible at the time of the site inspection due to being lined with timber dado for the lower section of the wall. It is assumed that the mortar is similar in properties for overall building. The bricks have been assumed to have a higher strength due to lesser weathering effects.

6.3.3 Exterior Veneer

The exterior veneer bricks and mortar were observed to be severely degraded and found visibly bowing, most notably on the West and North faces. The bricks were able to easily crumble under finger pressure, were moist and in some cases splinter off fragments. Large sections of mortar was missing and other pieces could easily be removed and scratched with finger pressure. The walls on the east side were found in comparatively better condition and intact but shared similar material and properties. Figure 19 shows the ease of scratching the veneer bricks with finger pressure.

We suggest that excessive exposure to sea-spray, particularly in West and North, is the cause of this damage. The corrosion of brick ties has further contributed to this damage. Therefore, it was deemed that the veneer bricks and mortar have no reliable strength and are at the point of collapse given the visible outward bowing.



Figure 20. Condition of Bricks and Mortar on Exterior Veneer

7 DSA Results

7.1 Capacity/Demand Ratio

The assessed seismic capacities of the structural elements of the building in terms of a percentage of capacity over demand are summarised in Table 2 below.

Table 2. Summary of Assessed Capacity/Demand Results

Structural Element	Capacity/Demand Ratio	Comments
In-Plane Walls		
Courtroom walls	35%	Governed by diagonal-tensile shear
Perimeter walls	25%	Governed by diagonal-tensile shear
Out-of-Plane Walls		
Courtroom walls	45%	4 brick thickness, governed by deflection compatibility
Perimeter walls	30%	2 brick thickness, governed by deflection compatibility
Internal partition walls	15%	Limited by OOP capacity, considering propped at top edge
Diaphragms		
Lower roof diaphragm	50%	Limited by the displacement incompatibility between the diaphragm and face-loaded OOP URM walls
Upper roof diaphragm	85%	Limited by the displacement incompatibility between the diaphragm and face-loaded OOP URM walls
Parts		
Courtroom roof portal frame	55%	OOP capacity of the timber glulam portals governs due to the flexible roof diaphragm
Chimneys	20%	Remaining sections of URM chimneys in the ceiling cavity
Brick veneer façade – general	20%	OOP capacity considering mortar joints are still effective but capacity reduced to factor in the condition
Brick veneer façade – western wall	15%	The façade is considered to be near the point of failure due to the condition of bricks and mortar

7.2 Critical Structural Weakness

The governing factor for the NBS rating of the Old Greyhound Courthouse is the out-of-plane capacity of the brick veneer façade, rated at near the point of failure, and the internal partition walls with a rating of 15% NBS (IL2). The internal walls are 3.8 m high single brick masonry and are assumed to be supported at the top edge. Failure of an internal partition wall would be a life safety due to their weight.

7.3 Assessment Results Summary

7.3.1 URM Walls Acting In-Plane

The structure relies on the in-plane unreinforced brick masonry walls to resist seismic actions. Under the ULS seismic demands, we have assessed the walls for the following actions:

- Sliding shear
- Diagonal tensile shear
- Toe-crushing
- Rocking
- Slip plane sliding

The layout of the walls for the longitudinal and transverse directions is shown in Figure 21. The perimeter cavity walls have been assessed considering only the internal wythe due to the poor condition of the external wythe. The demands were calculated using the tributary roof area along with the self-weight of the wall itself. A ductility of 1 was adopted for the assessment due to the brittle behaviour of the unreinforced masonry walls.

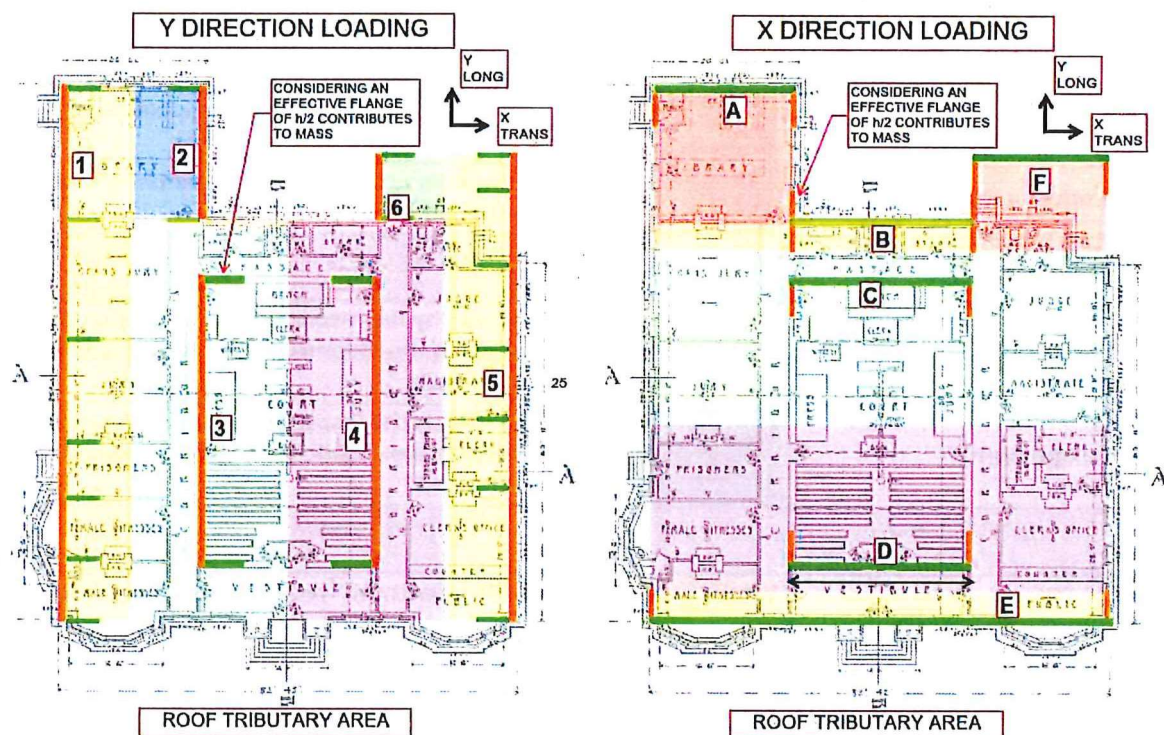


Figure 21. In-Plane Wall Loading

Sliding shear and diagonal tensile shear resistance are considered fundamental to the capacity of the walls. The critical case was the perimeter wall 'Wall 5', which was assessed to be 25% capacity over demand ratio (IL2) limited by its in-plane capacity. This is due to it being required to resist a large portion of the earthquake demands. The courtroom walls were rated at 35% capacity/demand ratio (IL2) under x-direction in-plane loading.

7.3.2 Walls Acting Out-of-plane

Due to the flexible nature of the roof diaphragms and the large spacing between in-plane walls, it is expected that the URM walls will undergo out-of-plane actions. The out-of-plane capacities of the walls have been assessed against displacement compatibility, in accordance to section C8.8 of the Guidelines.



Figure 22. Out-of-Plane Loading on Internal URM Walls

The courtroom walls, due to their relatively large thickness in comparison to their height, were assessed to be 45% NBS (IL2). The contribution of the concrete bond beam was ignored due to the age and condition. The bond beam was considered to provide propping to the top edge of the walls.

The perimeter walls were considered as piers with an average width of 1.5 m. The internal wythe of the wall was found to have a rating of 30% and the external veneer was assessed to be 20%. Propping of the top edge is considered to occur from the timber roof trusses.

The internal walls of the Old Courthouse were determined to be the critical element of the structure, with a rating of 15%. An average width of 4 m was used with a height of 3.8 m and a thickness of one course. Propping of the top edge is considered to occur from the timber roof trusses. However, in areas where a separation between the walls and roof has occurred, such as the internal walls perpendicular to the west wall, there is likely no propping action occurring. This would result in a lower capacity and therefore, a lower rating of the out-of-plane capacity.

7.3.3 Roof Diaphragms

There are two main types of roof diaphragms present in the Old Greymouth Courthouse. The lower roof diaphragms represented by the areas A, C, and D in Figure 23 are constructed out of original timber roof trusses spaced at 800 mm centres with horizontal sarking. Diaphragm B is at a raised level and consists of timber glulam portal with diagonal sarking. The diaphragms are considered very flexible and were assessed using the methodology outlined in C8. This framework assesses the displacement compatibility between the diaphragm and the face loaded URM walls from the roof.

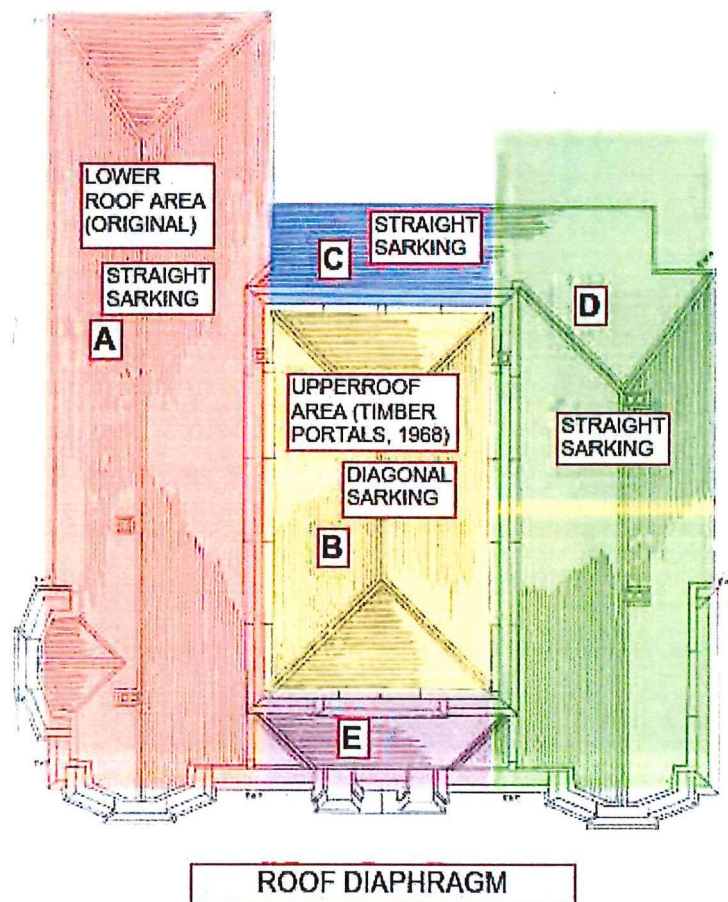


Figure 23. Roof Diaphragms

Our assessment found diaphragm B, which was constructed at a later date of 1968, has a rating of 85% NBS (IL2) and the lower roof diaphragm has been assessed to be 50% NBS (IL2). These ratings are limited by the deflection incompatibility with the face-loaded URM walls due to the low stiffness obtained from timber sarking.

7.3.4 Assessment of Building Parts/Portions

The glulam portals used to create the roof of the courtroom area were built in 1968 as part of the alterations work on building following the damage from the Inangahua earthquake and are shown in Figure 24. Due to the roof diaphragm being very flexible, it is expected that the portals will be required to work out-of-plane to resist the lateral demands. The portals were assessed using parts and portions loading and rated as 55% NBS (IL2).

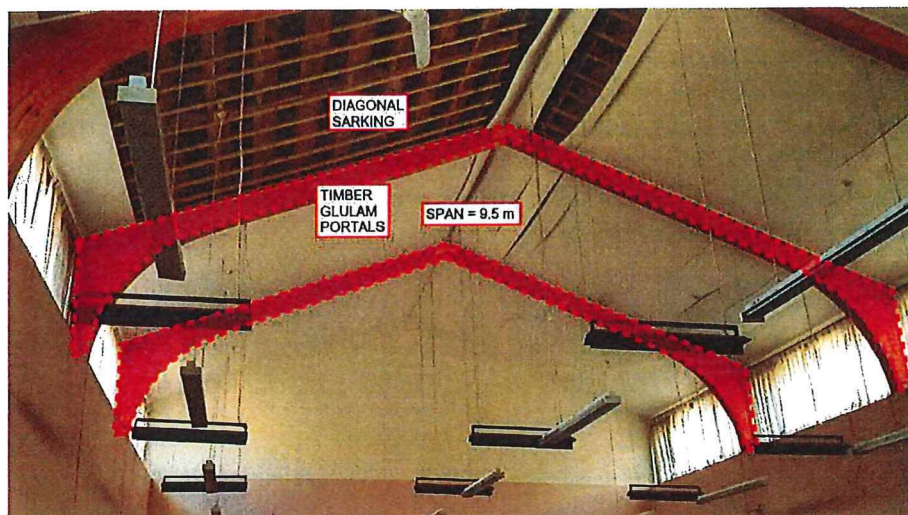


Figure 24. Central Courtroom Timber GLVL Portals

The building originally was provided with six unreinforced brick masonry chimneys. Following the earthquake in 1968, all heavy ornaments, as well as chimneys and parapets, were removed from the roof to below the roof line. The parapets were replaced with a timber replica, and therefore, their associated falling hazard was eliminated. As for the brick chimneys, based on the photos and site investigation, it was found that at least 3 chimneys still remain up to the underside of the roofing within the ceiling cavity. The remaining piece of chimney is shown in Figure 25.

We have assessed them under parts loading with approximately 1.2 m of chimney remaining in the ceiling cavity. This was rated to be 20% NBS (IL2). Failure of the remaining chimney in the ceiling cavity would result in bricks falling through the ceiling causing a threat to life safety.

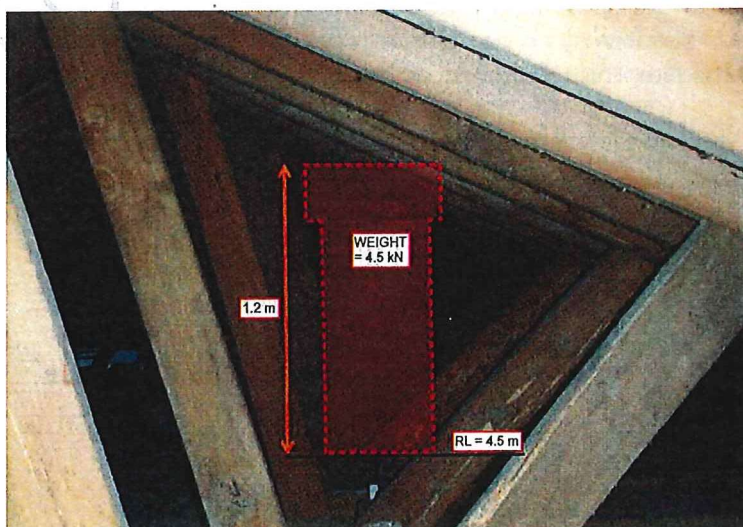


Figure 25. Remaining Chimney in Ceiling Cavity

The perimeter walls of the building are made up of a 2-course inner wall and an external single brick wythe separated by a 65 mm cavity. The external wythe makes up the cladding of the building. From visual inspection, it was found that steel packer plates/ties in the external veneer are severely degraded and the brick veneer was bowing up to 70 mm at the centres of the piers. The corroding steel has swelled and caused cracking of the veneer. Due to the poor condition of the steel ties, it is assumed that they do not provide their intended support to the veneer. This was confirmed by using a borescope camera in the cavity.

Assuming a veneer with brick and mortar in good condition yields an out-of-plane rating of 20% NBS (IL2). We consider the rating of the brick veneer to be 20% NBS (IL2) for the general veneer (north, east, and south walls). The level of deterioration present on the western wall is far greater than the condition of the other walls. We consider that the mortar joints are no longer effective. Therefore, we consider the veneer on the western wall to be near the point of failure with a rating of 15% NBS (IL2).



Figure 26. Cracking in Brick Veneer

7.4 Secondary Risks

The safety of occupants or the operation of the building can be affected if heavy items are not adequately restrained. These items can be cladding panels, suspended ceilings, cabinets, equipment racks and the like. This DSA does not consider the effects of secondary items.

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8 Conclusions

We consider that the Greymouth courthouse is structurally a very high-risk building (Grade 'E') and suggest repairs before considering it suitable for occupancy. Our conclusion is a result of considering the combined effects of existing damage and cracking, deteriorated condition of URM walls, inadequate structural form and loss of lateral restraints to the URM Façade and URM partition walls.

The observed damage to the external URM façade includes visible out-of-plane bowing, broken and deteriorated bricks, chipped off mortar and corroded and shear-off masonry ties. In our opinion, the main cause of this damage is the long term exposure to sea-spray particularly on the West and the North faces, use of poor quality bricks and beach-sand mortar and the lack of maintenance.

We also observed severe cracking on top of internal load bearing URM walls and separation of URM partition with the roof diaphragm leaving them susceptible to out-of-plane failure. We consider that this damage is the cause of possible foundation settlement and rotation near the North-West Corner. The URM walls and the render (plaster) was found to be damp throughout the building mainly caused by seepage due to broken drain pipes.

Our DSA results, taking in to account existing damage, indicated several critical issues in the structure. These include; out-of-plane failure of 3.8 m high URM brick partitions and the veneer façade, and diagonal tensile failure in the load bearing URM walls. We assessed the building at 15% NBS (IL2) due to the above factors.

Other critical factors which contribute to the seismic risk include loss of timber diaphragm connection to URM walls and falling of remaining portions of unrestraint brick chimneys present in the ceiling space.

Additionally, we have identified several miscellaneous factors which limit the occupancy at its current state and would require significant repair or reinstatement before the building could be considered fit for occupancy. These include; loss of weather tightness, black moulds on the Internal walls and render due to dampness, exposed or naked electrical wiring subjected to vandalism, likely presence of disturbed asbestos in roof cavity, outdated or non-functioning HVAC systems and absence of ceiling tiles, fixtures, and windows in several locations.

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9 Recommendations

Before the repair works commence we strongly recommend further investigation to determine the following;

- Intrusive investigation to determine support of roof on perimeter URM walls and the lateral restraint to internal partition walls
- Condition and presence of brick ties in all the façade walls
- Further testing to confirm the residual strength of bricks and mortar
- The detailing and support of the concrete lintel beams
- Possible settlement and/rotation of the foundations
- The cause of dampness around foundation under the building

Structural strengthening is recommended to ensure the building is recommended. This includes increasing the in-plane and out-of-plane capacity of the brick walls in the building, adding bracing to the lower and upper roof diaphragms, removing and replacing the brick veneer, repairing of cracking in the walls, and ensuring the URM walls are dry, structurally stable and properly restrained. Concept strengthening schemes to increase the rating to greater than 34 %NBS (IL2) or 67% NBS (IL2) are detailed in the following section.

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10 Proposed Concept Strengthening Scheme

The following concept strengthening schemes are proposed to bring the building's rating to above 34 or 67 %NBS (IL2). A more detailed account of the required strengthening is presented in Appendix D. The proposed strengthening is subject to the heritage requirements of the building.

The strengthening increases the buildings stiffness and provides reliable load paths and connections. The strengthening is designed to eliminate significant life safety hazards such as the single brick partition walls and URM chimneys by their removal. Where materials have severely degraded to an extent that they are not be able to be repaired, such as the external brick veneer, their removal is required. The building sits on highly liquefiable soil with a high water table. Therefore, strengthening of the foundations to prevent rotation and differential settlements is required. Propping of the structure will be required during the implementation of the strengthening scheme and further investigation is required to determine the exact requirements.

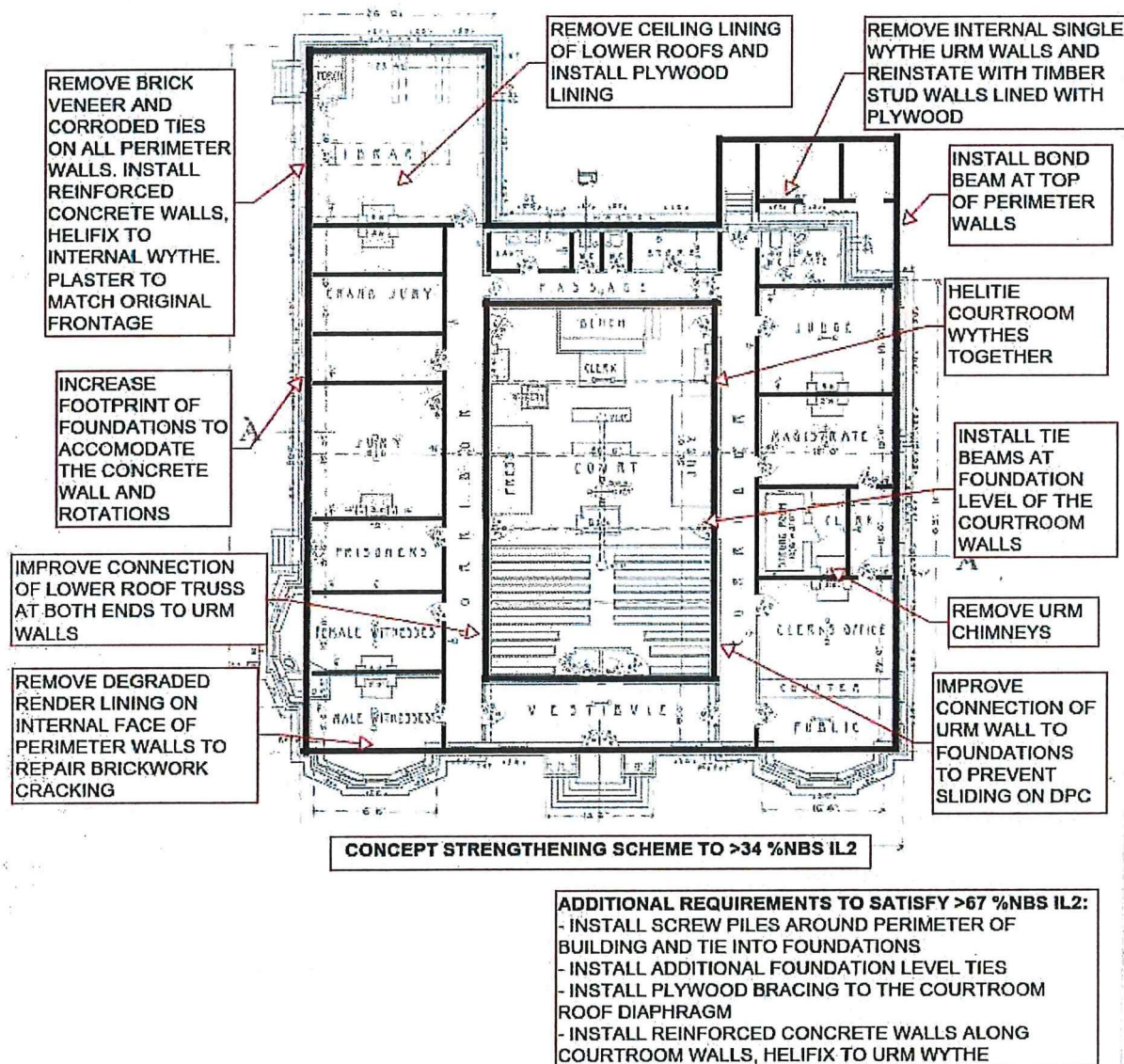


Figure 27. Summary of Proposed Strengthening Scheme

10.1 Strengthening to Greater than 34 %NBS (IL2)

10.1.1 Internal Walls

The internal walls are single brick URM walls are to be removed and replaced with timber stud walls with plywood bracing. The remaining sections of URM chimneys are to be removed to floor level. Areas of damaged or degraded render is to be removed and the brickwork repaired.

10.1.2 Perimeter Walls

The external brick veneer is to be removed around the full perimeter of the building, with ties removed and brickwork of the internal wythe repaired. A 200 mm doubly reinforced concrete wall is to be attached to the external face of the remaining wythe, rendered to match the original façade. The top section of the perimeter wall is damaged in numerous places, therefore, a concrete bond beam is to be installed on top of the perimeter walls.

10.1.3 Courtroom Walls

The courtroom walls are double wythe URM, each 2 brick thick. These walls are to be connect together with *Heli-Ties* to improve their in-plane and out-of-plane capacities.

10.1.4 Roof Diaphragms

The lower roof diaphragm is inherently flexible due to the horizontal timber sarking, which imposes face loading on the URM walls. The ceiling lining is to be removed and reinstated with plywood sheeting. The connections of the lower roof trusses to the URM walls

10.1.5 Foundations

A reinforced concrete foundation beam is to be installed around the perimeter of the building and attached to the existing URM strip foundation. A section of foundations is to be installed at the courtroom foundations to prevent sliding of the URM walls on the DPC layer.

10.2 Additional Requirements for Strengthening to Greater than 67 %NBS (IL2)

10.2.1 Internal Walls

Same as required for 34 %NBS strengthening

10.2.2 Perimeter Walls

Same as required for 34 %NBS strengthening

10.2.3 Courtroom Walls

Same as required for 34 %NBS strengthening, with the addition of the internal face of the courtroom walls are to have the timber lining removed. A 200 mm doubly reinforced concrete wall is to be install attached to the internal face of the URM walls and the original lining can be reinstated.

10.2.4 Roof Diaphragms

Same as required for 34 %NBS strengthening, with the addition of relining the upper roof diaphragm with plywood sheeting.

10.2.5 Foundations

Same as required for 34 %NBS strengthening, with the addition of a grid of concrete foundation beams to interconnect the structure. Screw piles, 8-10 m deep, placed around the perimeter of the building are proposed to limit differential settlement from the liquefiable soil of the site.

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Appendix A

Building Timeline

Timeline of Building Damage and Alterations

Do not communicate

BUILDING TIMELINE

Greymouth Court House 8 Guinness Street

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1912

July – The Greymouth courthouse is completed. Constructed out of unreinforced brick masonry, perimeter walls were double brick with a single brick veneer, the main courtroom was 4 brick and internal walls were single brick. The roof was set at two levels with timber trusses and sarking.



Courthouse
at opening



Courthouse

1929

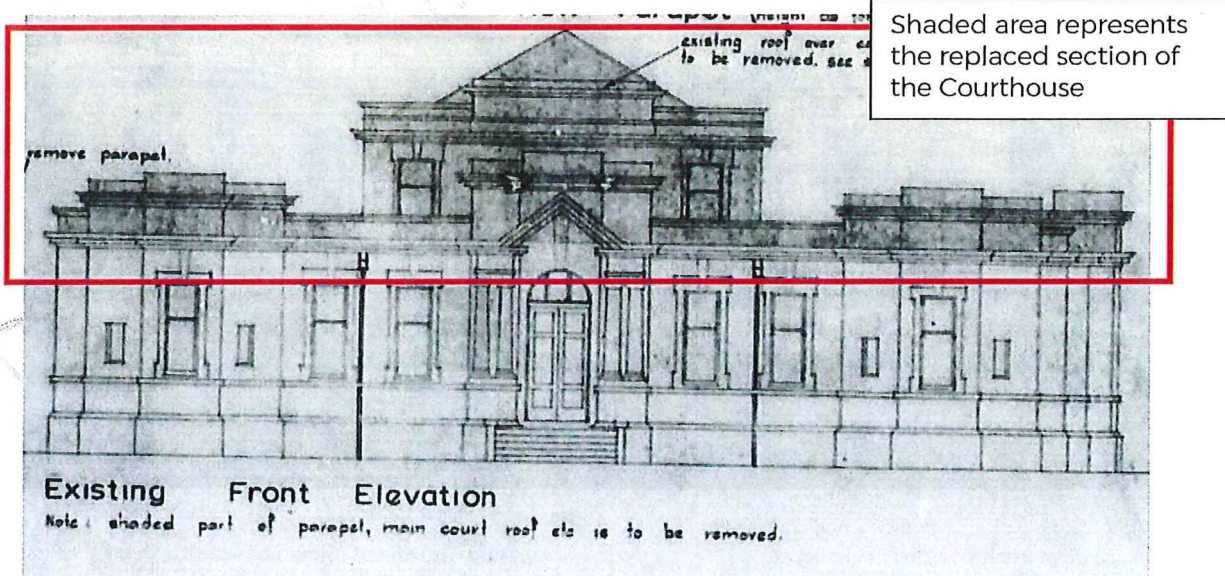
March – A 7.0 magnitude earthquake centred in Arthur's Pass, 65km south-east of Greymouth, at a depth of 12km. Shaking was reported to have gone on for 4 minutes.

June – A 7.3 magnitude earthquake centred 65km north of Murchison, 20km deep, led to reported damage of brick buildings in Greymouth.

1968

May – A 7.1 magnitude earthquake centred 25km west of Murchison, 12km deep, severely damaged the chimneys and parapets of the courthouse. From strengthening works, it appears that the courtroom roof and the upper sections of the courtroom walls failed during the earthquake. The main courtroom was evacuated and closed until strengthening could be completed.

October – Ministry of Works were engaged to complete repairs and strengthening to the courthouse following the Inangahua earthquake. Heavy ornaments were removed, chimneys and parapets were removed and replaced with light-weight timber versions. The upper parts of the main courtroom walls were removed and replaced with a reinforced concrete bond beam that supported glulam portals to make up the roof structure.



1974

February – A building survey conducted on the courthouse had the following findings;
This building was damaged in the Inangahua earthquake of May '68 and because much of it was still in good condition, it was repaired and strengthened. The main damage was to the high walls and roof of the court room area. All heavy ornaments were removed and the brick parapets replaced by timber sitting on a new RC band. The court room roof trusses were replaced by glulam portals anchored to deep RC beam replacing the upper part of the brick walls.
Cracking is very minor except under the heavy continuous RC band of the courtroom area. This is substantial on the NE corner but relatively minor on the other 3 corners. Cracks occurred at time of construction and has apparently stabilised.
The condition of the lime mortar of the brick masonry was described as deteriorating but fair

March – Letter issued to the Secretary of Justice in regards to the building survey completed in February, which stated the following about the Greymouth courthouse;
It is a one storey brick building built about 1912 of 7500 sqft in floor area with timber floors and roof framing covered in galvanised iron. The building has been moderately damaged due to earthquake action with some of the hazards falling off. The gables and parapets haven been replaced in timber and the roof replaced over the courtroom. A RC band was placed around the building at the time the repairs were made.
The building is in fairly good condition and classified MC4 with a suggested replacement period of 12 to 15 years from the base year 1965, i.e. 1977 to 1980.



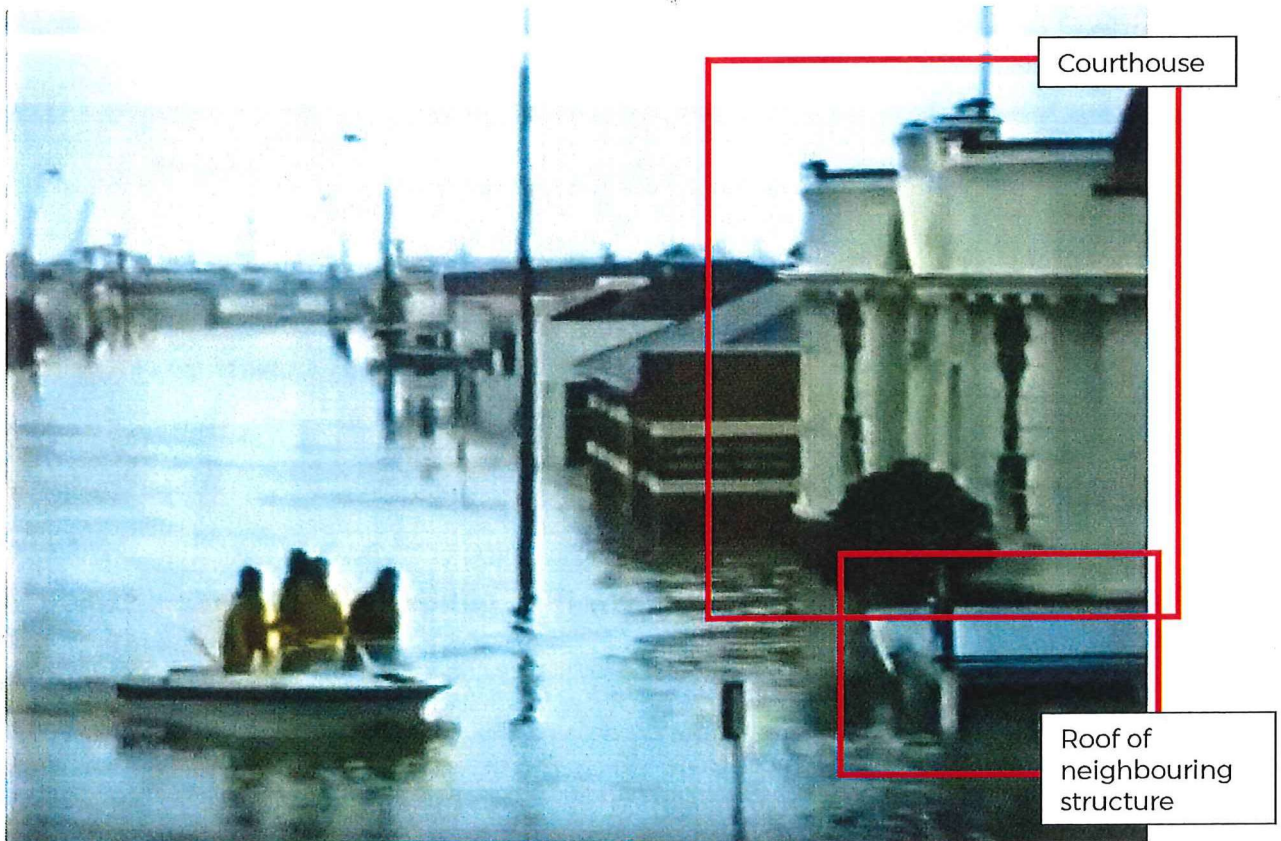
1984

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September – Correspondence indicating the client's desire/intention to install a mezzanine floor level. Letter references an already constructed mezzanine floor level at the north end of the building. Letter references that any work carried out on the structure would have a limited life due to the recommended replaced date of 1980 already being pasted.

1988

September – Greymouth was flooded, Water levels inside the courthouse were reported to be 350 to 850 mm deep. The building required extensive repairs, which included the repair of the internal plaster work where the gritty lightly compacted sand used in the plaster work had acted as a wick, which had absorbed the flood waters and generated a dampness about three quarters of the way up the walls.



1999

November – Correspondence from the Department for Courts to Opus International Consultants in regards to concerns over cracks that were growing in the building. It was noticed 2-3 years after the flood in 1988 that cracks began appearing in the building beginning first in the cornices then gradually getting wider until plaster began to fall out. At that time it was inspected by a Works civil engineer and was advised that as the building had been soaked with water after many years of being dry, shrinkage had occurred in the plaster work causing cracks to appear. The advice was that the building was safe but if the cracks travelled, it would be necessary to review the situation.

It was noticed that the cracks in the tea-room, law library, court room, toilet, and staff-room had travelled down from the ceiling and to the corners of the window frames and appeared to be widening.

2000

February – Photos taken



March – Investigations of the foundations of the courtroom were conducted and the following was determined;

- Excavation by the north wall of the law library confirmed that the strip footing had a depth of at least 800mm.
- A short length of concrete footing between the internal and external brick veneer walls was inspected, which confirmed the footing extends between the two without any joint. This rules out the possibility of differential settlement of the walls at foundation level.

It was concluded that due to the sound condition of the single piece footing and the bases of the two brick veneer walls, the differential shrinkage/expansion of the brick walls was the most likely cause of the wall cracking near the scotia.

May – Investigations of the top plate connection between the original timber roof trusses and the external walls were carried out and the following was determined;

- There was no visual evidence that the timber top plate is connected to the inner brick wall.
- The rafter is recessed full depth (150mm) into the outer brick veneer wall and bonded to the brickwork via a masonry mortar joint.
- The rafter is rebated to sit on a 100x70mm timber top plate, which rests on the inner brick veneer wall.

It was determined the most likely cause of cracking around the scotia inside the building was the timber top plate on the inner wall was being pulled away from the inner brick wall, which was shrinking in relation to the outer wall due to the dryer conditions inside the building.

June – A structural report was completed for the Greymouth courthouse, which deemed the building to be classified as earthquake prone. The report summarised that the building was in poor condition, with issues of differential settlement between the layers of walls, poor mortar joints, rotating lintel beams, poor connection of roof to walls.

2001

August – Photos taken



June – Department for Courts made contact with Opus in regards to concerns about the cracking within the building.

September – In response to the concerns raised by the Department for Courts, Opus confirmed that the cracks had grown in size since the previous inspection in March 2000. Highlighting that if the building was to remain that it should be strengthened before mid-2003.

2011

September – A Condition Assessment and Detailed Seismic Assessment (DSA) was carried out. The DSA was completed in accordance to the draft document 'Assessment and Improvement of Unreinforced Masonry Buildings for Earthquake Resistance' released by The University of Auckland, dated February 2011.

The condition assessment found the condition of the building was generally poor, particularly the exterior brickwork and corresponding lining on the western and northern walls. Fixings were difficult to ascertain. In some cases they may be non-existent and in others hidden from view. Brick chimneys were generally as per original except cut off just below roofing.

The DSA concluded the seismic rating of the building was approximately 10% of the building code New Building Standard for an IL3 structure. The critical components of the building which were below 33%NBS and resulted in the building having a high hazard level were the upper and lower timber roof diaphragms and the poor continuity of the lower roof to wall connections.

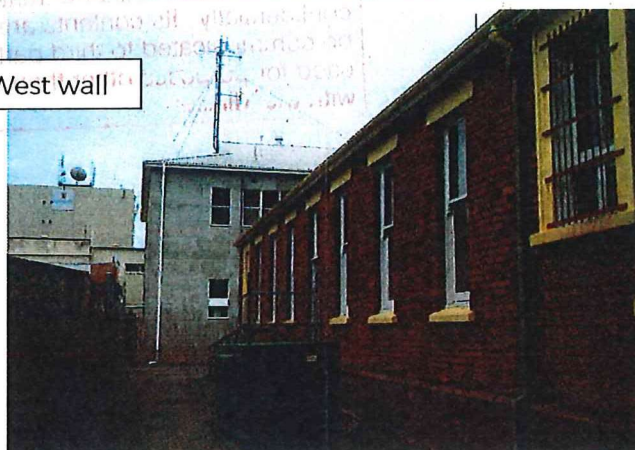
2012

September – Preliminary Geotechnical Assessment was conducted for another client at a neighbouring property. The findings were that the wider area of the neighbouring site consists of recent sediments of a dominating sandy composition, possibly loose and saturated and, therefore, the risk of liquefaction potential was deemed to be relatively high.

2014

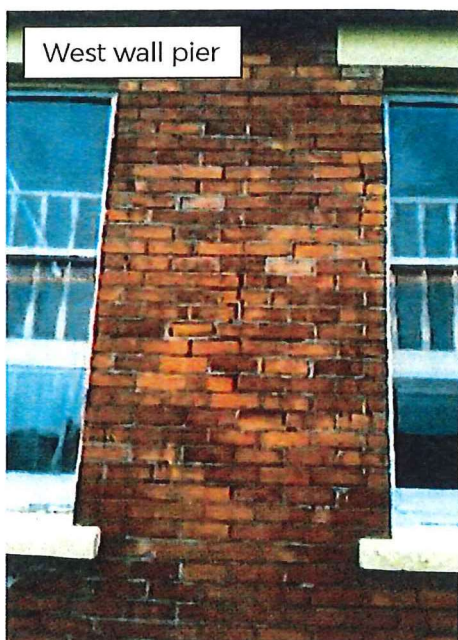
March – A visual assessment was conducted to inspect the condition of the exterior brick veneer along the western wall of the courthouse. It was concluded that the wall had continued to deteriorate further, with visible cracking and bowing of the piers. Further investigation was recommended.

West wall

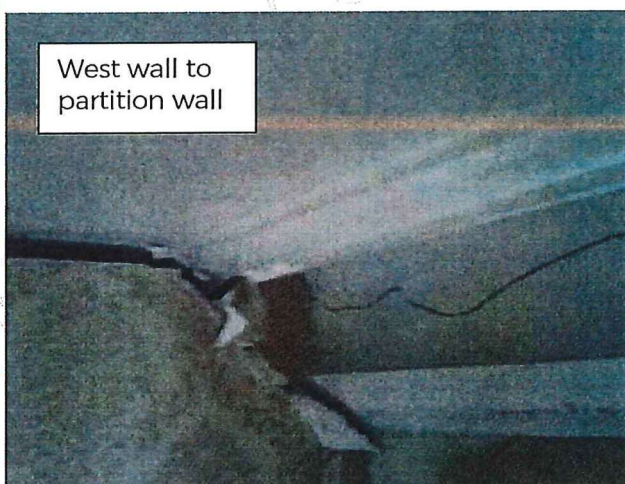


July – Internal photos

West wall pier



West wall to partition wall



2018

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July – Letter from council to Ministry of Justice raising concerns as to the current condition of the brick veneer.

Appendix 4

Email Correspondence from Mawhera

From: Mawhera Admin <admin@mawhera.org.nz>
Sent: Friday, 21 November 2025 12:53 pm
To: Scott, Shane <Shane.Scott@justice.govt.nz>
Cc: Marie-Louise Tacon <ml.tacon@yahoo.com>; Sam Wheelans <Sam.Wheelans@ashtonwheelans.co.nz>
Subject: RE: Mawhera Incorporation - Old Grey Court House

Hi Shane

Thanks for your email.

The Mawhera Incorporation confirm we are supportive of a full site demolition providing us with a clear site.

Kind regards



Rachel Scott | Mawhera Operations Manager

 Level 2, 83 Victoria Street, Christchurch
 PO Box 13042, Christchurch 8141
 (03) 964 7203
 (03) 365 4098
 www.mawhera.org



From: Scott, Shane <Shane.Scott@justice.govt.nz>
Sent: Tuesday, November 18, 2025 10:26 AM
To: Mawhera Admin <admin@mawhera.org.nz>
Subject: Mawhera Incorporation - Old Grey Court House

Kia ora Marie-Louise
I hope this finds you well.

As we progress through the process to demolish the Old Grey Court House, I wanted to provide you with a quick update and ask you for some assistance. Below is a draft timeline of our proposed works to gain the building consent required for the demolition we are working too:

Milestone	Date
Draft reports to accompany resource consent application completed.	28 Nov
Draft RC application complete	5 Dec
Client review / Circulate to key stakeholders	12 Dec
Lodge Resource consent	15 Dec
RMA Statutory shutdown period	20 Dec – 10 Jan
Request for further information process	16 Jan
Notification and submissions	30 Jan

Submissions close	27 Feb
* If no submissions are received or no submitters wish to be heard, and the Council is recommending approval, then under s.100 of the RMA a hearing may not need to be held.	March
If a hearing is required - Council evidence for Hearing (Section 42A Report)	13 March
Applicant evidence	20 March
Hearing	13 April
Decision	11 May

Based on this, I met with the Grey Council last week and discussed the probable need to have the existing Section 124s notice extended when it expires in April 2026, which they were acceptable to.

To assist us with keeping this work progressing, our Resource Consultants have asked me to ask you if you are supportive of a full demolition of the Old Grey building and do not support the retention of the façade only. This is to assist us with meeting our obligations under Policy HH-P7 (below) demonstrating we have considered options available to us for a heritage building, which are:

Policy HH-P7 as below.

HH - P7	<i>Demolition and destruction of <u>historic heritage</u> items identified in <u>Schedule One</u> will not be allowed unless it can be demonstrated, through investigation and assessment by a suitably <u>qualified heritage professional</u> that:</i> <i>a. The extent of the work required to retain the heritage items is of such a scale that the heritage values and integrity of the heritage item would be <u>significantly compromised</u>;</i> <i>b. The <u>costs</u> to retain or repair the heritage item would be unreasonable;</i> <i>c. All <u>other viable alternatives</u>, including <u>relocation</u> and <u>repositioning</u> have been fully considered.</i>
---------	---

If you are supportive of a full site demolition providing you with a clear site, we would appreciate if you could reply to me stating that. If you have any questions, please don't hesitate to come back to me.

Ngā mihi

Shane

Shane Scott | Regional Property Manager, Lower North / Southern | Ministry of Justice | Tâhū o te Ture | [+64 27 200 6316](tel:+64272006316)

Appendix 5

Cost Report- AECOM

Greymouth Court Seismic Strengthening Options

Concept Design Cost Estimate Report

03-Dec-2025

Greymouth Court Seismic Strengthening Options

Concept Design Cost Estimate Report

Client: Ministry of Justice

Co No.: N/A

Prepared by

AECOM New Zealand Limited

Level 19, 171 Featherston Street, Pōneke|Wellington 6011, PO Box 27277, Pōneke|Wellington 6141, New Zealand
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03-Dec-2025

Job No.: 60753602

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Quality Information

Document Greymouth Court Seismic Strengthening Options
Ref 60753602
Date 03-Dec-2025
Originator Leo Wilkinson/ Lee Wing Sze
Checker/s Leo Wilkinson
Verifier/s Marcel Frei

Revision History

Rev	Revision Date	Details	Approved	
			Name/Position	Signature
0	03-Dec-2025	Cost Estimate Report	Marcel Frei Technical Director	

Table of Contents

1.0	Estimate Summary	5
1.1	Project Brief	5
1.2	Cost Estimate	5
2.0	Cost Estimate	6
2.1	Project Scope	6
2.2	Basis of Estimate	6
2.3	Estimate Cost Summary	6
2.4	Estimate Assumptions	7
2.5	Estimate Inclusions	7
2.6	Estimate Exclusions	7
3.0	Risk	8
3.1	Project Contingency	8
3.2	Project Risk	8
	The required information to undertake a probabilistic risk assessment i.e. a comprehensive project risk register, is not available. Therefore, we have used a Class 5 project accuracy range as a means of indicating potential outcomes.	8
Appendix A		
	Elemental Cost Estimate	9

1.0 Estimate Summary

1.1 Project Brief

The Ministry of Justice is considering the future of the historic Greymouth Court Building that originates from 1912 but is in a poor condition and has a low seismic rating.

AECOM New Zealand have been commissioned to prepare cost estimates for three potential remediation options, to inform the decision on the future of the building. The estimates have been based on the structural condition and seismic assessment reports received from WSP.

This report and the associated elemental cost estimate are based on the design documentation outlined in section 2.1.

1.2 Cost Estimate

Our assessment of the cost of the three remediation options is shown below:

Cost Centre	Strengthening to 67% NBS \$	Strengthening to 100% NBS \$	Retain Façade and Rebuild \$
Physical Works	3,277,000	3,605,000	3,127,000
Consents	57,000	63,000	70,000
Professional Fees	1,190,000	1,309,000	575,000
MOJ costs	100,000	100,000	150,000
Base Estimate	4,624,000	5,077,000	3,922,000
Project Contingency	1,259,000	1,754,000	578,000
Expected Estimate	5,883,000	6,831,000	4,500,000
Lower Range	4,118,700	4,781,700	3,150,700
Upper Range	8,825,900	10,246,500	6,751,500

As yet, no budget has been established for the work and is unlikely until such times as a decision is made to proceed with strengthening and remediation.

2.0 Cost Estimate

2.1 Project Scope

The Ministry of Justice is considering the future of the historic Greymouth Court Building located 8 Guinness Street, Greymouth. The building is in a poor condition having been vacated for a number of years. It has also been assessed as having a seismic rating of 15% NBS.

WSP have prepared two remediation options, being to 67% NBS and 100% NBS. In addition, a third option has been derived which involves the retention of the historic façade and the construction of a new commercial building on the site.

The works in the main focus on the foundations, masonry external envelope and the masonry internal walls.

2.2 Basis of Estimate

The cost estimate is based on information provided by the client and consultant team as follows:

Company	Document	Date
WSP	Building Assessment Report Rev 01	14 Mar 2019
WSP	100% Strengthening Concept Letter	25 Nov 2024
WSP	Façade Retention Letter	30 May 2025

Typically, we measured and estimated the above information generally in accordance with the New Zealand Institute of Quantity Surveyors' Elemental Analysis of Costs of Building Projects 5th Edition.

The estimated cost rates, allowances and sums are typically first principles rate build up, recent contractor/supplier rates, benchmarked historical costs and published cost libraries.

2.3 Estimate Cost Summary

Cost Centre	Strengthening to 67% NBS \$	Strengthening to 100% NBS \$	Retain Façade and Rebuild \$
Physical Works	3,277,000	3,605,000	3,127,000
Consents	57,000	63,000	70,000
Professional Fees	1,190,000	1,309,000	575,000
MOJ costs	100,000	100,000	150,000
Base Estimate	4,624,000	5,077,000	3,922,000
Project Contingency	1,259,000	1,754,000	578,000
Expected Estimate	5,883,000	6,831,000	4,500,000
Lower Range	4,118,700	4,781,700	3,150,700
Upper Range	8,825,900	10,246,500	6,751,500

Refer to appendix A for the supporting elemental cost estimate.

2.4 Estimate Assumptions

We have assumed the following items regarding to our cost estimate:

- Works will be procured through a competitive lump sum basis
- There are no items noted as conservation fabric that require specialist attention. This was confirmed by William Fulton in a meeting 25 November 2025.

2.5 Estimate Inclusions

The following items are specifically included in the cost estimate:

1. Escalation based on 3% per annum
2. Design development allowance of 10% for detailing not yet documented. This is not a contingency
3. Design and management fees of 18%
4. Building and Resource Consent fees
5. An allowance for MOJ capitalised salaries
6. Preliminaries & General 15%
7. Contractor's margin of 6%

2.6 Estimate Exclusions

The following items are specifically excluded from the cost estimate:

1. Land remediation
2. Costs incurred to date
3. Temporary accommodation and relocation costs
4. Works to adjacent properties outside of the site boundaries
5. Building fit-out (architecture and services)
6. Furniture and Equipment
7. Development Levies
8. Land Costs
9. Green Star Rating
10. Upgrades to mains services
11. Shrink wrapping/ tenting of the whole building
12. GST

3.0 Risk

3.1 Project Contingency

We have assessed potential consequences to design and construction risks at a high level, and this has generated contingency provision within the expected estimate values as follows:

- 67% NBS 27%
- 100% NBS 35%
- Rebuild 15%

This indicates that the lowest risk relates to demolition and rebuild of the structure, whereas the highest risk is for the extensive strengthening to 100% NBS.

The details of our assessment are shown in Appendix A.

3.2 Project Risk

The required information to undertake a probabilistic risk assessment i.e. a comprehensive project risk register, is not available. Therefore, we have used a Class 5 project accuracy range as a means of indicating potential outcomes.

Cost Centre	Strengthening to 67% NBS \$	Strengthening to 100% NBS \$	Retain Façade and Rebuild \$
Expected Estimate	5,883,000	6,831,000	4,500,000
Lower Range	4,118,700	4,781,700	3,150,700
Upper Range	8,825,900	10,246,500	6,751,500

Appendix A

Elemental Cost Estimate

AECOM
PROJECT SUMMARY

Project No. 04-Dec-2025 Page 1

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 100% NBS
 Revision : Initial



PHYSICAL WORKS - Building reinstatement and
strengthening (100% NBS)

No.	Description	Quantity	Unit	Rate	Amount
1	SITE PREPARATION	621	m ²	1,024.27	636,441
2	SUBSTRUCTURE	621	m ²	1,177.94	731,924
3	FRAME	621	m ²	165.07	102,570
4	STRUCTURAL WALLS	621	m ²	419.35	260,566
5	ROOF	621	m ²	28.92	17,969
6	EXTERIOR WALLS AND EXTERIOR FINISH	621	m ²	421.35	261,811
7	WINDOWS AND EXTERIOR DOORS	621	m ²	9.66	6,000
8	INTERIOR WALLS	621	m ²	124.72	77,499
9	INTERIOR DOORS	621	No	23.55	14,630
10	FLOOR FINISHES		m ²		0
11	WALL FINISHES	621	m ²	115.02	71,470
12	CEILING FINISHES	621	m ²	262.30	162,981
13	FITTINGS AND FIXTURES		m ²		0
14	SANITARY AND HYDRAULIC SERVICES		No		0
15	HEATING AND VENTILATION SERVICES	621	m ²	20.00	12,427
16	FIRE SERVICES	621	m ²	111.40	69,219
17	ELECTRICAL SERVICES	621	m ²	30.20	18,767
18	SUNDRIES		Sum		<u>89,643</u>
	SUB-TOTAL				2,533,917
19	DESIGN DEVELOPMENT	10	%		253,392
20	PRELIMINARY & GENERAL	15	%		418,096
21	MARGIN	6	%		192,324
	TOTAL				3,397,730
	Total				\$3,398,000

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 100% NBS
 Revision : Initial



PHYSICAL WORKS - Building reinstatement and strengthening (100% NBS)

No.	Description	Quantity	Unit	Rate	Total
1	SITE PREPARATION				
	<u>Temporary Works</u>				
	Provide extensive temporary propping in lieu of internal loadbearing walls to support roof, designed to suit staged demolition and structural instability	1	Sum	100,000.00	100,000
	Carefully take up and set aside suspended timber ground floor along building perimeter to provide access for underpinning works, say 2m wide	133	m	250.00	33,153
	Provide protection to structurally weak masonry walls with crumbling mortar and soft bricks – stabilisation prior to works	1	Sum	50,000.00	50,000
	Form site access across footpath and reinstate on completion	1	Sum	1,000.00	1,000
	Form temporary harstand inside property boundaries for scaffold, propping and the like	1	Sum	5,000.00	5,000
	<u>Moisture Management</u>				
	Rectify waterlogged underfloor void, including pumping out, removal of debris and temporary drainage	1	Sum	18,000.00	18,000
	Remove and treat extreme internal dampness to walls, floors and ceiling fabric – include allowance for drying, sealing, or replacement	1	Sum	40,000.00	40,000
	Repair façade damage due to uncontrolled water flow, including render, brickwork, or timber elements (refer external walls and roof)		inc		
	<u>Remedial Repairs / Openings</u>				
	Allow for minor vandalism repairs, e.g., damaged doors, fixings, partitions	1	Sum	10,000.00	10,000
	Board up or make safe broken windows and exposed external openings, temporary weatherproofing	1	Sum	5,000.00	5,000
	<u>Chimney Replacement (Provisional)</u>				
	Replace URM chimneys with brick veneer fixed to new RC shaft 175mm thk. w/ 80kg/m3 rebar; install 3 x 3 x 0.8m fp. RC foundation pad on 8 micropiles (option to demolition)		Sum	100,000.00	0
	<u>Hazmat & Strip-Out - Provisional allowances</u>				
	Strip-out and disposal of black mould-affected materials	1	Sum	30,000.00	30,000

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 100% NBS
 Revision : Initial



PHYSICAL WORKS - Building reinstatement and strengthening (100% NBS)

No.	Description	Quantity	Unit	Rate	Total
	Remove and dispose of broken/damaged ceiling linings and internal wall linings due to vandalism or moisture damage	1	Sum	18,000.00	18,000
	Removal and disposal of asbestos in roof cavity; including testing, encapsulation (if required), and certification	1	Sum	45,000.00	45,000
	Allow for discovery and removal of additional hazardous materials	1	Sum	20,000.00	20,000
	<u>Demolition</u>				
	Remove all single wythe URM internal walls	431	m ²	200.00	86,110
	Remove existing ceiling lining	621	m ²	50.00	31,068
	Remove brick veneer and corroded ties on all perimeter walls	480	m ²	200.00	96,086
	Remove timber lining on internal face of the courtroom walls	180	m ²	170.00	30,525
	<u>Chimney</u>				
	Careful remove of URM chimneys from ceiling cavity to floor; including safe access, lowering, and disposal	5	no	3,500.00	17,500
	Sub-Total				\$636,441
2	SUBSTRUCTURE				
	<u>Excavation and Foundation Preparations</u>				
	Cutting down existing URM foundation in line with internal wythe	133	m	415.00	55,033
	Grout injection to underpin the existing foundation	133	m	56.01	7,427
	<u>Piling</u>				
	168mm dia screw piles to an average of 8 - 10 m deep (No.); around perimeter of building tied into foundations with concrete pile cap	342	m	550.00	188,101
	120mm micro piles; with ischebeck galvanized bar 40/16 (apprx 12m depth); through internal grid of building tied into foundations with concrete cap	336	m	810.00	272,161
	Piling equipment site establishment and disestablishment - site access, etc.	1	Sum	10,000.00	10,000
	<u>Substructure</u>				
	800 x 400 reinforced (80kg/m ³) concrete tie beams to connect foundation; including formwork, excavation and disposal	118	m	531.00	62,679

Project : Greymouth Courts Building		AECOM			
Cost Plan : Greymouth Court Building 100% NBS					
Revision : Initial					
PHYSICAL WORKS - Building reinstatement and strengthening (100% NBS)					
No.	Description	Quantity	Unit	Rate	Total
3	800 x 400 reinforced (80kg/m³) concrete foundation beams to around full perimeter of the building; including formwork, excavation and disposal	133	m	538.00	71,344
	800 x 400 x 1000 reinforced (80kg/m³) concrete foundation; Tie with concrete foundation beam via YD20 Bar @ 600mm CRS; including formwork, excavation and disposal	21	No	726.00	15,246
	1000 x 1000 x 800 reinforced (80kg/m³) concrete pile cap including formwork, excavation and disposal	38	No	1,314.00	49,932
	Sub-Total				\$731,924
	Precast Concrete				
	Install approx. 400 x 500 reinforced (80kg/m³) concrete beams on top of new perimeter walls	115	m	650.00	74,646
	Install 150 x 90 mm timber member to provide support to trusses; M16 bolts to concrete beam at 300mm centres	115	m	69.00	7,924
	Structural system				
	Install high level tension only steel cross bracing at portal knees to improve out-of-plane seismic resistance, 4 bays	1	Sum	20,000.00	20,000
	Sub-Total				\$102,570
4	STRUCTURAL WALLS				
	Walls				
	Perimeter wall; Install 200mm thick doubly reinforced concrete walls with 80kg/m3 re-bar to outside; Helifix-tied to ex. internal URM wythe @ 400mm c/s each way	480	m²	354.00	170,072
	Courtroom wall; Install 200mm thick reinforced concrete walls with 80kg/m3 re-bar to outside; Helifix-tied to ex. internal URM wythe @ 400mm c/s each wal	180	m²	504.00	90,494
	Sub-Total				\$260,566
5	ROOF				
	Rainwater System				
	Spouting including fascia	133	m	80.00	10,609
	150 dia downpipes & laterals (Stainless steel)	30	m	150.00	4,560
	150 diameter roof drain outlet	8	No	350.00	2,800
Sub-Total				\$17,969	
6	EXTERIOR WALLS AND EXTERIOR FINISH				
	Allow for partial reconstruction of weak/crumbling URM sections (based on condition assessment); external leaf only; 50% of wall area; assume half brick thick	252	m2	275.00	69,289

Project No.

04-Dec-2025

Page 5

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 100% NBS
 Revision : Initial



PHYSICAL WORKS - Building reinstatement and strengthening (100% NBS)

No.	Description	Quantity	Unit	Rate	Total
	Allow to re-point balance of external walls	252	m2	250.00	62,990
	<u>Finishing</u>				
	Remove existing render of internal face of wall and repair brickwork cracks	431	m²	100.00	43,055
	Render finish to 200mm RC wall to match original facade, paint finish	480	m²	180.00	86,477
	Sub-Total				\$261,811
7	WINDOWS AND EXTERIOR DOORS				
	<u>Exterior Windows</u>				
	Allow to reglaze damaged window glazing	1	Sum	1,000.00	1,000
	Allow to repair rotten timber casements	1	Sum	5,000.00	5,000
	Sub-Total				\$6,000
8	INTERIOR WALLS				
	<u>Partitions</u>				
	Timber framed partitions, with 10mm plasterboard both sides, paint finish	431	m²	180.00	77,499
	Sub-Total				\$77,499
9	INTERIOR DOORS				
	<u>Internal Doors</u>				
	Allow to remove doors and frames, set aside and re-fix into new timber framed partitions, re-paint	22	No	665.00	14,630
	Sub-Total				\$14,630
11	WALL FINISHES				
	<u>Timber Linings</u>				
	19mm plywood to timber frame internal walls	431	m²	166.00	71,470
	Sub-Total				\$71,470
12	CEILING FINISHES				
	<u>Ceiling lining</u>				
	Replace with 19mm plywood lining	621	m²	166.30	103,331
	<u>Finishes</u>				
	30min rated intumescent paint to timber surfaces	621	m²	90.00	55,922

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 100% NBS
 Revision : Initial



PHYSICAL WORKS - Building reinstatement and
 strengthening (100% NBS)

No.	Description	Quantity	Unit	Rate	Total
	<u>Sundries</u>				
	Access panels (Allow)	6	No	600.00	3,728
	Sub-Total				\$162,981
15	HEATING AND VENTILATION SERVICES				
	Remove and dispose of non-functioning HVAC units, including disconnection and duct removal	621	m2	20.00	12,427
	Sub-Total				\$12,427
16	FIRE SERVICES				
	Automatic fire sprinkler system incorporating a manual fire alarm system and an automatic smoke/heat detection system	621	m ²	90.00	55,922
	Fire stopping	1	Sum	10,000.00	10,000
	Builders works in connection with fire services	5	%	65,922.40	3,296
	Sub-Total				\$69,219
17	ELECTRICAL SERVICES				
	<u>Electrical</u>				
	Make safe and remove damaged electrical wiring, allowance for isolation, removal, and tagging	621	m2	20.00	12,427
	Remove heritage light fittings, set aside and reinstate on completion	1	Sum	6,340.00	6,340
	Sub-Total				\$18,767
18	SUNDRIES				
	<u>General</u>				
	Scaffolding - erect/ dismantle	480	m2	40.00	19,217
	Scaffolding hire - \$5/m2/wk - 12 months build	480	m2	60.00	28,826
	<u>Internal Access</u>				
	Mobile scaffold towers - 2 no. for 12 months	1	Sum	41,600.00	41,600
	Sub-Total				\$89,643

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 100% NBS
 Revision : Initial



PROJECT CONTINGENCY

No.	Description	Quantity	Unit	Rate	Amount
	<u>Design Variance</u>				
	Detailed site assessments - further structural issues - structure increases by 33%	1	Sum		361,370
	Building fabric deterioration - fit-out fabric increases by 33%	1	Sum		194,373
	Additonal building services scope - 33% of full typical MEP project content	1	Sum		396,212
	Additonal design fees	8	%		216,353
	<u>Construction Variance</u>				
	Discovery - uncovering fabric damage - costs increase by 10%	1	Sum		78,338
	Discovery - uncovering structural damage - costs increase by 10%	1	Sum		145,643
	Extensions of time - 2 months	1	Sum		80,000
	Ground conditions	1	Sum		100,000
	Additional design & observation fees	8	%		181,486
	Total				\$1,754,000

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 100% NBS
 Revision : Initial



PROJECT CONTINGENCY

No.	Description	Quantity	Unit	Rate	Total
	Detailed site assessments - further structural issues -				
	Subs				731,924
	Frame				102,570
	Structural walls				260,566
	Sub-Total				\$361,370
	Building fabric deterioration - fit-out fabric increases by				
	Internal walls				77,499
	clg fins				142,290
	wall fins				71,470
	roof				17,969
	partitions				17,969
	ext walls				261,811
	Sub-Total				\$194,373
	Additonal building services scope - 33% of full typical				
	Construciton being 60%				3,003,412
					-1,802,768
	Sub-Total				\$396,212
	Extensions of time - 2 months				
	2 month EOT	40	days	2,000.00	80,000
	Sub-Total				\$80,000

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 3 options estimate
 Revision : Initial



No.	Description	Quantity	Unit	Rate	Total
	PHYSICAL WORKS - Building reinstatement and strengthening (67% NBS)		Sum		3,089,000
	ESCALATION - TO MID-POINT OF CONSTRUCTION	6	%		188,000
	CONSTRUCTION TOTAL				3,277,000
	CONSENT COSTS	2	%		57,000
	CONSULTANTS FEES	18	%		1,190,000
	MOJ COSTS		Sum		100,000
	TOTAL BASE ESTIMATE				4,624,000
	PROJECT CONTINGENCY				1,259,000
	EXPECTED ESTIMATE				5,883,000
	CLASS 5 EXPECTED ACCURACY RAGE - LOWER \$4,118,700	-30	%		
	CLASS 5 EXPECTED ACCURACY RAGE - HIGHER \$8,825,900	50	%		
	Total				\$5,883,000.00

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 3 options estimate
 Revision : Initial



PHYSICAL WORKS - Building reinstatement and
 strengthening (67% NBS)

No.	Description	Quantity	Unit	Rate	Amount
1	SITE PREPARATION	621	m ²	1,024.27	636,441
2	SUBSTRUCTURE	621	m ²	739.93	459,763
3	FRAME	621	m ²	132.89	82,570
4	STRUCTURAL WALLS	621	m ²	450.28	279,784
5	ROOF	621	m ²	28.92	17,969
6	EXTERIOR WALLS AND EXTERIOR FINISH	621	m ²	421.35	261,811
7	WINDOWS AND EXTERIOR DOORS	621	m ²	9.66	6,000
8	INTERIOR WALLS	621	m ²	124.72	77,499
9	INTERIOR DOORS	621	No	23.55	14,630
10	FLOOR FINISHES		m ²		0
11	WALL FINISHES	621	m ²	184.31	114,525
12	CEILING FINISHES	621	m ²	262.00	162,795
	FITTINGS AND FIXTURES				0
14	SANITARY AND HYDRAULIC SERVICES		No		0
15	HEATING AND VENTILATION SERVICES	621	m ²	20.00	12,427
16	FIRE SERVICES	621	m ²	111.40	69,219
17	ELECTRICAL SERVICES	621	m ²	30.20	18,767
18	SUNDRIES		Sum		<u>89,643</u>
	SUB-TOTAL				2,303,842
19	DESIGN DEVELOPMENT	10	%		230,384
20	PRELIMINARY & GENERAL	15	%		380,134
21	MARGIN	6	%		<u>174,862</u>
	TOTAL				785,380
	Total				\$3,089,000

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 3 options estimate
 Revision : Initial



PHYSICAL WORKS - Building reinstatement and
 strengthening (67% NBS)

No.	Description	Quantity	Unit	Rate	Total
1	SITE PREPARATION				
	<u>Temporary Works</u>				
	Provide extensive temporary propping to internal loadbearing walls and roof, designed to suit staged demolition and structural instability	1	Sum	100,000.00	100,000
	Carefully take up and set aside suspended timber ground floor along building perimeter to provide access for underpinning works, say 2m wide	133	m	250.00	33,153
	Provide protection to structurally weak masonry walls with crumbling mortar and soft bricks – stabilisation prior to works	1	Sum	50,000.00	50,000
	Form site access across footpath and reinstate on completion	1	Sum	1,000.00	1,000
	Form temporary harstand inside property boundaries for scaffold, propping and the like	1	Sum	5,000.00	5,000
	<u>Moisture Management</u>				
	Rectify waterlogged underfloor void, including pumping out and temporary drainage	1	Sum	18,000.00	18,000
	Remove and treat extreme internal dampness to walls, floors and ceiling fabric – include allowance for drying, sealing, or replacement	1	Sum	40,000.00	40,000
	Repair façade damage due to uncontrolled water flow, including render, brickwork, or timber elements	1	Sum		0
	<u>Remedial Repairs / Openings</u>				
	Allow for minor vandalism repairs, e.g., damaged doors, fixings, partitions	1	Sum	10,000.00	10,000
	Board up or make safe broken windows and exposed external openings, temporary weatherproofing	1	Sum	5,000.00	5,000
	<u>Chimney Replacement (Provisional)</u>				
	Replace URM chimneys with brick veneer fixed to new RC shaft 175mm thk. w/ 80kg/m3 rebar; install 3 x 3 x 0.8m fp. RC foundation pad on 8 micropiles (option to demolition)		Sum	100,000.00	0
	<u>Hazmat & Strip-Out - Provisional Allowances</u>				
	Strip-out and disposal of black mould-affected materials	1	Sum	30,000.00	30,000

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 3 options estimate
 Revision : Initial



PHYSICAL WORKS - Building reinstatement and
 strengthening (67% NBS)

No.	Description	Quantity	Unit	Rate	Total
	Remove and dispose of broken/damaged ceiling linings and internal wall linings due to vandalism or moisture damage	1	Sum	18,000.00	18,000
	Removal and disposal of asbestos in roof cavity; including testing, encapsulation (if required), and certification	1	Sum	45,000.00	45,000
	Allow for discovery and removal of additional hazardous materials	1	Sum	20,000.00	20,000
	<u>Demolition</u>				
	Remove all single wythe URM internal walls	431	m ²	200.00	86,110
	Remove existing ceiling lining	621	m ²	50.00	31,068
	Remove brick veneer and corroded ties on all perimeter walls	480	m ²	200.00	96,086
	Remove timber lining on internal face of the courtroom walls	180	m ²	170.00	30,525
	<u>Chimney</u>				
	Careful remove of URM chimneys from ceiling cavity to floor; including safe access, lowering, and disposal	5	no	3,500.00	17,500
	Sub-Total				\$636,441
2	SUBSTRUCTURE				
	<u>Excavation and Foundation Preparations</u>				
	Cutting down existing URM foundation in line with internal wythe	133	m	415.00	55,033
	Grout injection to underpin the existing foundation	133	m	56.01	7,427
	<u>Piling</u>				
	168mm dia screw piles to an average of 8 - 10 m deep (No.); around perimeter of building tied into foundations with concrete pile cap	342	m	550.00	188,101
	Piling equipment site establishment and disestablishment	1	Sum	10,000.00	10,000
	<u>Substructure</u>				
	800 x 400 reinforced (80kg/m ³) concrete tie beams to connect foundation; including formwork, excavation and disposal	118	m	531.00	62,679
	800 x 400 reinforced (80kg/m ³) concrete foundation beams to around full perimeter of the building; Tie with ex. URM strip foundation via YD20 Bar @ 600mm CRS; including formwork, excavation and disposal	133	m	538.00	71,344

Project : Greymouth Courts Building		AECOM				
Cost Plan : Greymouth Court Building 3 options estimate						
Revision : Initial						
PHYSICAL WORKS - Building reinstatement and strengthening (67% NBS)						
No.	Description	Quantity	Unit	Rate	Total	
3	800 x 400 x 1000 reinforced (80kg/m³) concrete foundation; Tie with concrete foundation beam via YD20 Bar @ 600mm CRS; including formwork, excavation and disposal	21	No	726.00	15,246	
	1000 x 1000 x 800 reinforced (80kg/m³) concrete pile cap including formwork, excavation and disposal	38	No	1,314.00	49,932	
	Sub-Total				\$459,763	
	Beam					
	Install approx. 400 x 500 reinforced (80kg/m³) concrete bond beams on top of the perimeter walls	115	m	650.00	74,646	
	Install 150 x 90 mm timber member to provide support to trusses; M16 bolts to concrete beam at 300mm centres	115	m	69.00	7,924	
	Sub-Total				\$82,570	
	4	STRUCTURAL WALLS				
	Walls					
	Perimeter wall					
Install 200mm thick doubly reinforced concrete walls with 80kg/m3 to outside; Helifix-tied to ex. internal URM wythe @ 400mm c/s each way	480	m²	354.00	170,072		
Repair the brickwork of the internal wythe of the perimeter wall	480	m²	40.00	19,217		
Courtroom wall						
Install 200mm thick reinforced concrete walls with 80kg/m3 re-bar to outside; Helifix-tied to ex. internal URM wythe @ 400mm c/s each way	180	m²	504.00	90,494		
	Sub-Total				\$279,784	
5	ROOF					
	Rainwater System					
Spouting including fascia	133	m	80.00	10,609		
150 dia downpipes & laterals (Stainless steel)	30	m	150.00	4,560		
150 diameter roof drain outlet	8	No	350.00	2,800		
	Sub-Total				\$17,969	
6	EXTERIOR WALLS AND EXTERIOR FINISH					
	Allow for partial reconstruction of weak/crumbling URM sections (based on condition assessment); external leaf only; 50% of wall area; assume half brick thick	252	m2	275.00	69,289	
	Allow to re-point balance of external walls	252	m2	250.00	62,990	

Project No.

04-Dec-2025

Page 5

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 3 options estimate
 Revision : Initial



PHYSICAL WORKS - Building reinstatement and
 strengthening (67% NBS)

No.	Description	Quantity	Unit	Rate	Total
	<u>Finishing</u>				
	Remove existing render of internal face of wall and repair brickwork cracks	431	m ²	100.00	43,055
	Render 200mm RC wall to match original facade, paint finish	480	m ²	180.00	86,477
	Sub-Total				\$261,811
7	WINDOWS AND EXTERIOR DOORS				
	<u>Exterior Windows</u>				
	Allow to reglaze damaged window glazing	1	Sum	1,000.00	1,000
	Allow to repair rotten timber casements	1	Sum	5,000.00	5,000
	Sub-Total				\$6,000
8	INTERIOR WALLS				
	<u>Partitions</u>				
	Timber framed partitions, with 10mm plasterboard both sides, paint finish	431	m ²	180.00	77,499
	Sub-Total				\$77,499
9	INTERIOR DOORS				
	<u>Internal Doors</u>				
	Allow to remove doors and frames, set aside and re-fix into new timber framed partitions, re-paint	22	No	665.00	14,630
	Sub-Total				\$14,630
11	WALL FINISHES				
	<u>Timber Linings</u>				
	19mm plywood to timber frame internal walls	431	m ²	166.00	71,470
	<u>Finishing</u>				
	Internal wall				
	Remove ex. render of internal face of wall and repair brickwork cracks	431	m ²	100.00	43,055
	Sub-Total				\$114,525
12	CEILING FINISHES				
	<u>Ceiling lining</u>				
	Replace with 19mm plywood lining	621	m ²	166.00	103,144
	<u>Finishes</u>				
	30min rated intumescent paint to timber surfaces	621	m ²	90.00	55,922

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 3 options estimate
 Revision : Initial



PHYSICAL WORKS - Building reinstatement and
 strengthening (67% NBS)

No.	Description	Quantity	Unit	Rate	Total
	<u>Sundries</u>				
	Access panels (Allow)	6	No	600.00	3,728
	Sub-Total				\$162,795
15	HEATING AND VENTILATION SERVICES				
	Remove and dispose of non-functioning HVAC units, including disconnection and duct removal	621	m2	20.00	12,427
	Sub-Total				\$12,427
16	FIRE SERVICES				
	Automatic fire sprinkler system incorporating a manual fire alarm system and an automatic smoke/heat detection system	621	m ²	90.00	55,922
	Fire stopping	1	Sum		10,000
	Builders works in connection with fire services	5	%		3,296
	Sub-Total				\$69,219
17	ELECTRICAL SERVICES				
	Make safe and remove damaged electrical wiring, allowance for isolation, removal, and tagging	621	m2	20.00	12,427
	Remove heritage light fittings, set aside and reinstate on completion	1	Sum	6,340.00	6,340
	Sub-Total				\$18,767
18	SUNDRIES				
	<u>General</u>				
	Scaffolding - erect/ dismantle	480	m2	40.00	19,217
	Scaffolding hire - \$5/m2/wk - 12 months build	480	m2	60.00	28,826
	<u>Internal Access</u>				
	Mobile scaffold towers - 2 no. for 12 months	1	Sum	41,600.00	41,600
	Sub-Total				\$89,643

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 3 options estimate
 Revision : Initial



PROJECT CONTINGENCY

No.	Description	Quantity	Unit	Rate	Amount
	<u>Design Variance</u>				
	Detailed site assessments - further structural issues - structure increases by 33%	1	Sum		213,914
	Building fabric deterioration - fit-out fabric increases by 33%	1	Sum		125,347
	Additonal building services scope - 33% of full typical MEP project content	1	Sum		333,624
	Additonal design fees	8	%		152,928
	<u>Construction Variance</u>				
	Discovery - uncovering fabric damage - costs increase by 10%	1	Sum		50,518
	Discovery - uncovering structural damage - costs increase by 10%	1	Sum		86,214
	Extensions of time - 2 months	1	Sum		80,000
	Ground conditions	1	Sum		100,000
	Additional design & observation fees	8	%		116,049
	Total				\$1,259,000

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 3 options estimate
 Revision : Initial



PROJECT CONTINGENCY

No.	Description	Quantity	Unit	Rate	Total
	Detailed site assessments - further structural issues -				
	Subs				246,810
	Frame				74,646
	Structural walls				326,769
	Sub-Total				\$213,914
	Building fabric deterioration - fit-out fabric increases by				
	partitions				68,888
	Wall fins				148,155
	ceiling fins				162,795
	Sub-Total				\$125,347
	Additonal building services scope - 33% of full typical				
	Construciton being 60%				2,528,975
					-1,517,992
	Sub-Total				\$333,624
	Extensions of time - 2 months				
	2 month EOT	40	days	2,000.00	80,000
	Sub-Total				\$80,000

AECOM
PROJECT SUMMARY

No.	Description	Quantity	Unit	Rate	Total
	PHYSICAL WORKS - Building reinstatement and strengthening (100% NBS)		Sum		3,398,000
	ESCALATION - TO MID-POINT OF CONSTRUCTION	6	%		207,000
	CONSTRUCTION TOTAL				3,605,000
	CONSENT COSTS	2	%		63,000
	CONSULTANTS FEES	18	%		1,309,000
	MOJ COSTS		Sum		100,000
	TOTAL BASE ESTIMATE				5,077,000
	PROJECT CONTINGENCY		Sum		1,754,000
	EXPECTED ESTIMATE				6,831,000
	CLASS 5 EXPECTED ACCURACY RANGE - LOWER \$4,781,700	-30	%		
	CLASS 5 EXPECTED ACCURACY RANGE - HIGHER \$10,246,500	50	%		
	Total				\$6,831,000.00

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 100% NBS
 Revision : Initial



PHYSICAL WORKS - Building reinstatement and
strengthening (100% NBS)

No.	Description	Quantity	Unit	Rate	Amount
1	SITE PREPARATION	621	m ²	1,024.27	636,441
2	SUBSTRUCTURE	621	m ²	1,177.94	731,924
3	FRAME	621	m ²	165.07	102,570
4	STRUCTURAL WALLS	621	m ²	419.35	260,566
5	ROOF	621	m ²	28.92	17,969
6	EXTERIOR WALLS AND EXTERIOR FINISH	621	m ²	421.35	261,811
7	WINDOWS AND EXTERIOR DOORS	621	m ²	9.66	6,000
8	INTERIOR WALLS	621	m ²	124.72	77,499
9	INTERIOR DOORS	621	No	23.55	14,630
10	FLOOR FINISHES		m ²		0
11	WALL FINISHES	621	m ²	115.02	71,470
12	CEILING FINISHES	621	m ²	262.30	162,981
13	FITTINGS AND FIXTURES		m ²		0
14	SANITARY AND HYDRAULIC SERVICES		No		0
15	HEATING AND VENTILATION SERVICES	621	m ²	20.00	12,427
16	FIRE SERVICES	621	m ²	111.40	69,219
17	ELECTRICAL SERVICES	621	m ²	30.20	18,767
18	SUNDRIES		Sum		<u>89,643</u>
	SUB-TOTAL				2,533,917
19	DESIGN DEVELOPMENT	10	%		253,392
20	PRELIMINARY & GENERAL	15	%		418,096
21	MARGIN	6	%		192,324
	TOTAL				3,397,730
	Total				\$3,398,000

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 100% NBS
 Revision : Initial



PHYSICAL WORKS - Building reinstatement and strengthening (100% NBS)

No.	Description	Quantity	Unit	Rate	Total
1	SITE PREPARATION				
	<u>Temporary Works</u>				
	Provide extensive temporary propping in lieu of internal loadbearing walls to support roof, designed to suit staged demolition and structural instability	1	Sum	100,000.00	100,000
	Carefully take up and set aside suspended timber ground floor along building perimeter to provide access for underpinning works, say 2m wide	133	m	250.00	33,153
	Provide protection to structurally weak masonry walls with crumbling mortar and soft bricks – stabilisation prior to works	1	Sum	50,000.00	50,000
	Form site access across footpath and reinstate on completion	1	Sum	1,000.00	1,000
	Form temporary harstand inside property boundaries for scaffold, propping and the like	1	Sum	5,000.00	5,000
	<u>Moisture Management</u>				
	Rectify waterlogged underfloor void, including pumping out, removal of debris and temporary drainage	1	Sum	18,000.00	18,000
	Remove and treat extreme internal dampness to walls, floors and ceiling fabric – include allowance for drying, sealing, or replacement	1	Sum	40,000.00	40,000
	Repair façade damage due to uncontrolled water flow, including render, brickwork, or timber elements (refer external walls and roof)		inc		
	<u>Remedial Repairs / Openings</u>				
	Allow for minor vandalism repairs, e.g., damaged doors, fixings, partitions	1	Sum	10,000.00	10,000
	Board up or make safe broken windows and exposed external openings, temporary weatherproofing	1	Sum	5,000.00	5,000
	<u>Chimney Replacement (Provisional)</u>				
	Replace URM chimneys with brick veneer fixed to new RC shaft 175mm thk. w/ 80kg/m3 rebar; install 3 x 3 x 0.8m fp. RC foundation pad on 8 micropiles (option to demolition)		Sum	100,000.00	0
	<u>Hazmat & Strip-Out - Provisional allowances</u>				
	Strip-out and disposal of black mould-affected materials	1	Sum	30,000.00	30,000

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 100% NBS
 Revision : Initial



PHYSICAL WORKS - Building reinstatement and strengthening (100% NBS)

No.	Description	Quantity	Unit	Rate	Total
	Remove and dispose of broken/damaged ceiling linings and internal wall linings due to vandalism or moisture damage	1	Sum	18,000.00	18,000
	Removal and disposal of asbestos in roof cavity; including testing, encapsulation (if required), and certification	1	Sum	45,000.00	45,000
	Allow for discovery and removal of additional hazardous materials	1	Sum	20,000.00	20,000
	<u>Demolition</u>				
	Remove all single wythe URM internal walls	431	m ²	200.00	86,110
	Remove existing ceiling lining	621	m ²	50.00	31,068
	Remove brick veneer and corroded ties on all perimeter walls	480	m ²	200.00	96,086
	Remove timber lining on internal face of the courtroom walls	180	m ²	170.00	30,525
	<u>Chimney</u>				
	Careful remove of URM chimneys from ceiling cavity to floor; including safe access, lowering, and disposal	5	no	3,500.00	17,500
	Sub-Total				\$636,441
2	SUBSTRUCTURE				
	<u>Excavation and Foundation Preparations</u>				
	Cutting down existing URM foundation in line with internal wythe	133	m	415.00	55,033
	Grout injection to underpin the existing foundation	133	m	56.01	7,427
	<u>Piling</u>				
	168mm dia screw piles to an average of 8 - 10 m deep (No.); around perimeter of building tied into foundations with concrete pile cap	342	m	550.00	188,101
	120mm micro piles; with ischebeck galvanized bar 40/16 (apprx 12m depth); through internal grid of building tied into foundations with concrete cap	336	m	810.00	272,161
	Piling equipment site establishment and disestablishment - site access, etc.	1	Sum	10,000.00	10,000
	<u>Substructure</u>				
	800 x 400 reinforced (80kg/m ³) concrete tie beams to connect foundation; including formwork, excavation and disposal	118	m	531.00	62,679

Project : Greymouth Courts Building		AECOM			
Cost Plan : Greymouth Court Building 100% NBS					
Revision : Initial					
PHYSICAL WORKS - Building reinstatement and strengthening (100% NBS)					
No.	Description	Quantity	Unit	Rate	Total
3	800 x 400 reinforced (80kg/m³) concrete foundation beams to around full perimeter of the building; including formwork, excavation and disposal	133	m	538.00	71,344
	800 x 400 x 1000 reinforced (80kg/m³) concrete foundation; Tie with concrete foundation beam via YD20 Bar @ 600mm CRS; including formwork, excavation and disposal	21	No	726.00	15,246
	1000 x 1000 x 800 reinforced (80kg/m³) concrete pile cap including formwork, excavation and disposal	38	No	1,314.00	49,932
	Sub-Total				\$731,924
	Precast Concrete				
	Install approx. 400 x 500 reinforced (80kg/m³) concrete beams on top of new perimeter walls	115	m	650.00	74,646
	Install 150 x 90 mm timber member to provide support to trusses; M16 bolts to concrete beam at 300mm centres	115	m	69.00	7,924
	Structural system				
	Install high level tension only steel cross bracing at portal knees to improve out-of-plane seismic resistance, 4 bays	1	Sum	20,000.00	20,000
	Sub-Total				\$102,570
4	STRUCTURAL WALLS				
	Walls				
	Perimeter wall; Install 200mm thick doubly reinforced concrete walls with 80kg/m3 re-bar to outside; Helifix-tied to ex. internal URM wythe @ 400mm c/s each way	480	m²	354.00	170,072
	Courtroom wall; Install 200mm thick reinforced concrete walls with 80kg/m3 re-bar to outside; Helifix-tied to ex. internal URM wythe @ 400mm c/s each wal	180	m²	504.00	90,494
	Sub-Total				\$260,566
5	ROOF				
	Rainwater System				
	Spouting including fascia	133	m	80.00	10,609
	150 dia downpipes & laterals (Stainless steel)	30	m	150.00	4,560
	150 diameter roof drain outlet	8	No	350.00	2,800
Sub-Total				\$17,969	
6	EXTERIOR WALLS AND EXTERIOR FINISH				
	Allow for partial reconstruction of weak/crumbling URM sections (based on condition assessment); external leaf only; 50% of wall area; assume half brick thick	252	m2	275.00	69,289

Project No.

04-Dec-2025

Page 5

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 100% NBS
 Revision : Initial



PHYSICAL WORKS - Building reinstatement and strengthening (100% NBS)

No.	Description	Quantity	Unit	Rate	Total
	Allow to re-point balance of external walls	252	m2	250.00	62,990
	<u>Finishing</u>				
	Remove existing render of internal face of wall and repair brickwork cracks	431	m²	100.00	43,055
	Render finish to 200mm RC wall to match original facade, paint finish	480	m²	180.00	86,477
	Sub-Total				\$261,811
7	WINDOWS AND EXTERIOR DOORS				
	<u>Exterior Windows</u>				
	Allow to reglaze damaged window glazing	1	Sum	1,000.00	1,000
	Allow to repair rotten timber casements	1	Sum	5,000.00	5,000
	Sub-Total				\$6,000
8	INTERIOR WALLS				
	<u>Partitions</u>				
	Timber framed partitions, with 10mm plasterboard both sides, paint finish	431	m²	180.00	77,499
	Sub-Total				\$77,499
9	INTERIOR DOORS				
	<u>Internal Doors</u>				
	Allow to remove doors and frames, set aside and re-fix into new timber framed partitions, re-paint	22	No	665.00	14,630
	Sub-Total				\$14,630
11	WALL FINISHES				
	<u>Timber Linings</u>				
	19mm plywood to timber frame internal walls	431	m²	166.00	71,470
	Sub-Total				\$71,470
12	CEILING FINISHES				
	<u>Ceiling lining</u>				
	Replace with 19mm plywood lining	621	m²	166.30	103,331
	<u>Finishes</u>				
	30min rated intumescent paint to timber surfaces	621	m²	90.00	55,922

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 100% NBS
 Revision : Initial



PHYSICAL WORKS - Building reinstatement and
 strengthening (100% NBS)

No.	Description	Quantity	Unit	Rate	Total
	<u>Sundries</u>				
	Access panels (Allow)	6	No	600.00	3,728
	Sub-Total				\$162,981
15	HEATING AND VENTILATION SERVICES				
	Remove and dispose of non-functioning HVAC units, including disconnection and duct removal	621	m2	20.00	12,427
	Sub-Total				\$12,427
16	FIRE SERVICES				
	Automatic fire sprinkler system incorporating a manual fire alarm system and an automatic smoke/heat detection system	621	m ²	90.00	55,922
	Fire stopping	1	Sum	10,000.00	10,000
	Builders works in connection with fire services	5	%	65,922.40	3,296
	Sub-Total				\$69,219
17	ELECTRICAL SERVICES				
	<u>Electrical</u>				
	Make safe and remove damaged electrical wiring, allowance for isolation, removal, and tagging	621	m2	20.00	12,427
	Remove heritage light fittings, set aside and reinstate on completion	1	Sum	6,340.00	6,340
	Sub-Total				\$18,767
18	SUNDRIES				
	<u>General</u>				
	Scaffolding - erect/ dismantle	480	m2	40.00	19,217
	Scaffolding hire - \$5/m2/wk - 12 months build	480	m2	60.00	28,826
	<u>Internal Access</u>				
	Mobile scaffold towers - 2 no. for 12 months	1	Sum	41,600.00	41,600
	Sub-Total				\$89,643

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 100% NBS
 Revision : Initial



PROJECT CONTINGENCY

No.	Description	Quantity	Unit	Rate	Amount
	<u>Design Variance</u>				
	Detailed site assessments - further structural issues - structure increases by 33%	1	Sum		361,370
	Building fabric deterioration - fit-out fabric increases by 33%	1	Sum		194,373
	Additonal building services scope - 33% of full typical MEP project content	1	Sum		396,212
	Additonal design fees	8	%		216,353
	<u>Construction Variance</u>				
	Discovery - uncovering fabric damage - costs increase by 10%	1	Sum		78,338
	Discovery - uncovering structural damage - costs increase by 10%	1	Sum		145,643
	Extensions of time - 2 months	1	Sum		80,000
	Ground conditions	1	Sum		100,000
	Additional design & observation fees	8	%		181,486
	Total				\$1,754,000

Project : Greymouth Courts Building
 Greymouth Courts Building NBS options
 Cost Plan : Greymouth Court Building 100% NBS
 Revision : Initial



PROJECT CONTINGENCY

No.	Description	Quantity	Unit	Rate	Total
	Detailed site assessments - further structural issues -				
	Subs				731,924
	Frame				102,570
	Structural walls				260,566
	Sub-Total				\$361,370
	Building fabric deterioration - fit-out fabric increases by				
	Internal walls				77,499
	clg fins				142,290
	wall fins				71,470
	roof				17,969
	partitions				17,969
	ext walls				261,811
	Sub-Total				\$194,373
	Additonal building services scope - 33% of full typical				
	Construciton being 60%				3,003,412
					-1,802,768
	Sub-Total				\$396,212
	Extensions of time - 2 months				
	2 month EOT	40	days	2,000.00	80,000
	Sub-Total				\$80,000