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design worldwide partnership

5th March 2020

The Planning Secretary
Department of Planning, Industry & Environment
320 Pitt Street
Sydney, NSW 2000

Attention: Megan Fu
Project: Nihon University Newcastle Campus - SSD 9787
Re: Conditions of Consent C05

Dear Megan,

Reference is made to SSD 9787 Conditions of Consent C05 in relation to the Demolition requirements for the project and the submitted compliance documentation dated 21st January 2020.

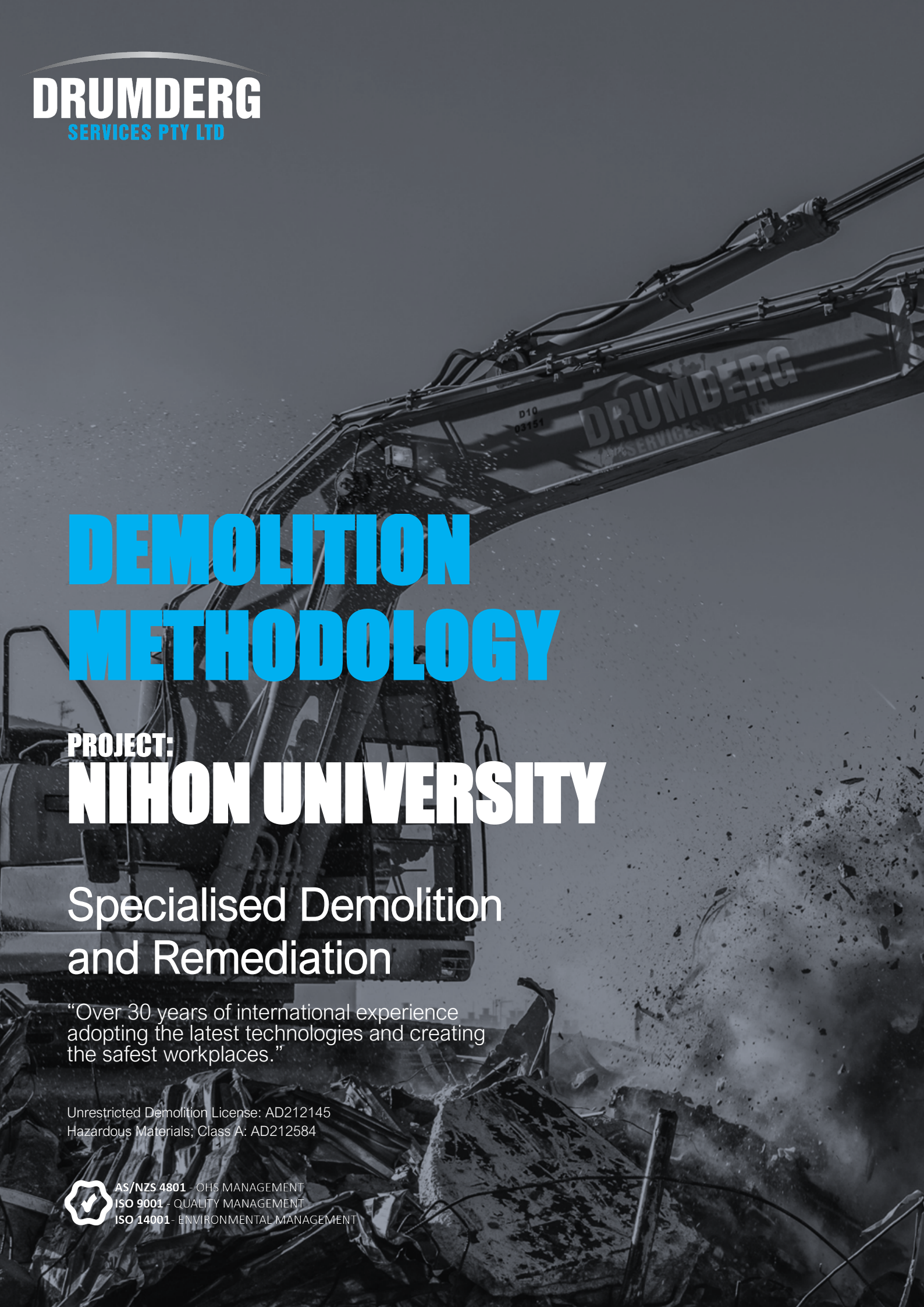
As the demolition works has progressed, elements of the existing buildings previously concealed have been exposed requiring the submitted demolition work plan to be reviewed. Attached is the updated demolition work plan by Drumderg Services Pty Ltd incorporating modifications to address revised site conditions.

Should you require further information on the updated plan please feel free to contact either Katherine Daunt or Edward Clode at dwp Australia Pty.

Yours sincerely,

Edward Clode
Design Director
Registered Architect – NSW ARBN 4100
Email: edward.c@dwp.com
File: 17-0347_A-d01-20_let
Encl.: Drumderg Services Demolition Methodology - revision 2

DRUMDERG
SERVICES PTY LTD



DEMOLITION METHODOLOGY

PROJECT:
NIHON UNIVERSITY

Specialised Demolition and Remediation

"Over 30 years of international experience adopting the latest technologies and creating the safest workplaces."

Unrestricted Demolition License: AD212145
Hazardous Materials; Class A: AD212584

AS/NZS 4801 - OHS MANAGEMENT
ISO 9001 - QUALITY MANAGEMENT
ISO 14001 - ENVIRONMENTAL MANAGEMENT

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REVISION REGISTER

REVISION No.	DATE	DETAILS
0	09/01/2020	INITIAL SUBMISSION
1	15/01/2020	DETAILED REVIEW
2	19/02/2020	BUILDING METHODOLOGY UPDATE

1. PROJECT DETAILS

1.1. OVERVIEW

Drumderg Services is to undertake the Demolition and associated hazmat removal works for the Nihon University project, located at the former Newcastle courthouse, on 9 Church St.

1.2. PROJECT OBJECTIVE

The complete down to ground demolition of existing courthouse Building A (Eastern building) and Building C (Western building), and the internal technical demolition and detailed soft strip of heritage court house building B (centre building), including associated works such as removal of hazardous materials where affected, complete strip of soft structure, separation and segregation of materials to achieve the high recycling rates.

1.3. CODES AND STANDARDS

Demolition and associated works within this package are to be carried out in accordance with the following legislation, codes and standards:

- Work Health and Safety Act 2011
- Work Health and Safety Regulations 2017 – Reg 270,141
- The Protection of the Environment Operations Act 1997
- National Parks and Wildlife Act 1974
- Australian Standard 2601-2001 – The Demolition of Structures.
- Australian Standard 2436-2010 Guide to noise control and demolition sites
- SafeWork NSW Code Of Practice Demolition Work 2019
- SafeWork NSW Code of Practice How to manage work Health and Safety Risks 2019
- SafeWork NSW Code of Practice How to Safely Remove Asbestos 2019
- SafeWork NSW Code of Practice Hazardous Manual Tasks 2019
- Code of Practice for the Management and Control of Asbestos in the Work Place 2019
- SafeWork NSW Code Of Practice Managing The Risks Of Plant In The Workplace 2019
- Australian Standards 2294 Operator Protective Devices
- SafeWork NSW Demolition Licencing
- SafeWork NSW Friable & Non-Friable Asbestos Removal Licencing

1.4. SITE DESCRIPTION

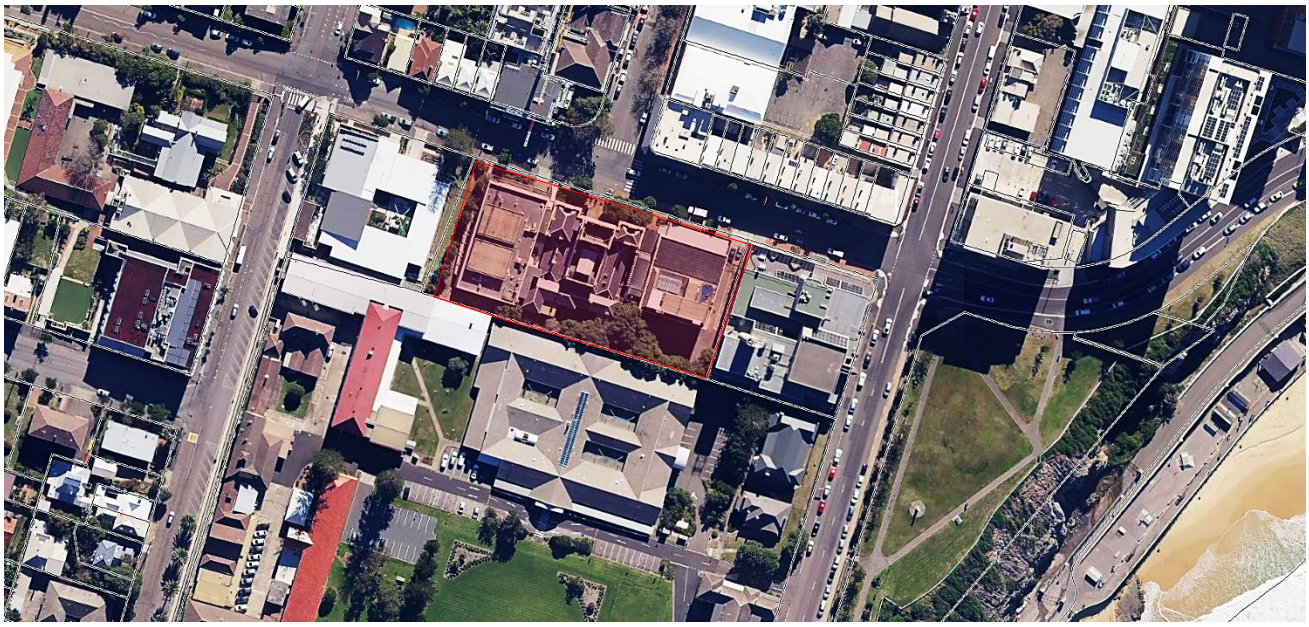


Fig. 1 – 9 Church St, Newcastle

Located at 9 Church St, Newcastle, the site's main access point for plant and equipment is located at the Eastern driveway accessing an open parking area behind building A & B, which will also serve as the main area of establishment.

1.5. GENERAL WORKS SCOPE

The general demolition works include:

- Removal of all trees on site by qualified arborist
- Hazardous material removal from building A & C
- Removal of hazardous material from affected demolition/soft strip areas of building B
- Complete soft strip of Building A and C
- Detailed soft strip of Building B, in accordance with heritage documentation
- Demolition of structures Infront of buildings A and C's front facades (ramp/stairs & entry building) to facilitate installation of scaffolding.
- Complete down to ground demolition of building A, including dismantling and separation of link building to B, and sectioned demolition of tunnel.
- Complete down to ground demolition of building C, including dismantling and separation of link building to B
- Technical demolition of internal areas of building B, including creating openings through masonry walls throughout, sectioned demolition of slabs.
- Separation of materials, removal, carting and recycling/disposal of all demolished materials.

2. DEMOLITION METHODOLOGY

2.1 PRELIMINARIES & DOCUMENTATION

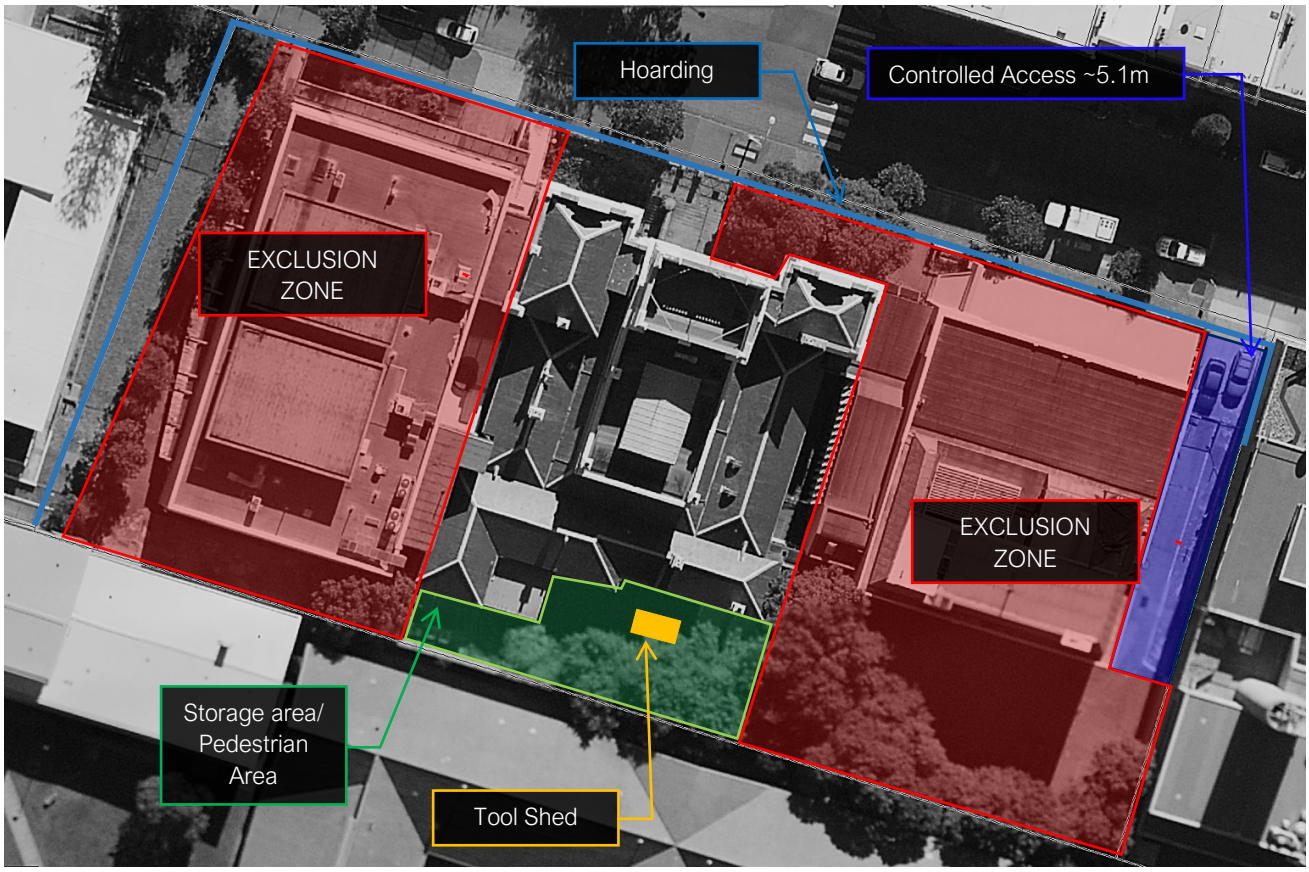
1. Submittal of notifications to SafeWork NSW.
    a. Demolition work under Drumderg Licence
    b. Asbestos Removal Work under Drumderg Licence
2. Submittal of asbestos works notification to adjacent property owners.
3. Submittal of the following documents to client for review:
    a. OHS, Environmental and Quality Management Plans
    b. Safe Work Method Statements
    c. Public protection/hoarding plan

2.2 SITE ESTABLISHMENT

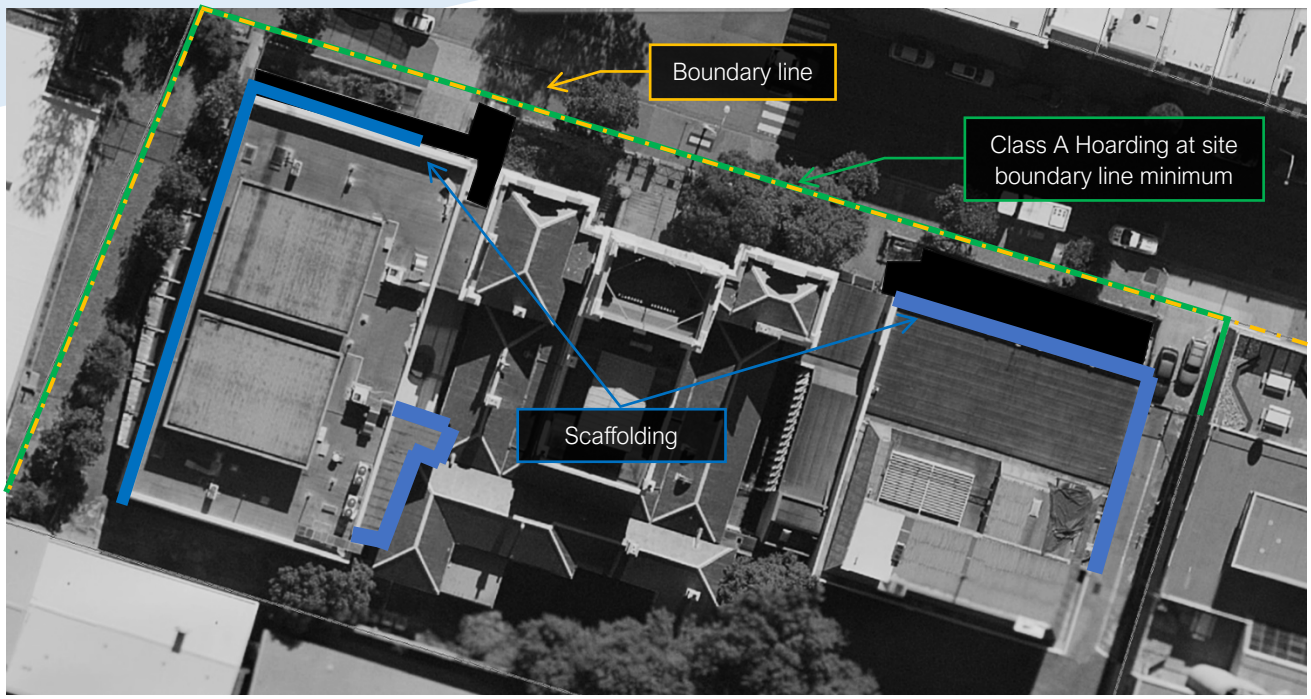
1. Inspection and allocation of:
    a. Access points
        i. Ensure access points provide appropriate clearance to mobilise plant and equipment.
            1. Existing Eastern access/egress driveway has an existing width clearance of approximately 6.37 metres (neighbouring wall to Building A wall).
                a. Initial soft strip stage will have full clearance of the driveway.
                b. Hard demolition stage's scaffolding width across this face of building A will occupy approximately 1.1 – 1.2m, with a remaining adequate clearance for truck access of 5 metres. With further clearance created as demolition of Building A progresses.
                c. 1.23 metre wide lowered path and retaining wall adjacent to driveway to act as barrier to scaffold. Concrete barricades to be positioned at southern section where lowered path /retaining brick wall ends as to prevent scaffold damage from turning trucks/plant.
        ii. Maintain appropriate traffic control measures during mobilisation as per traffic control plan.
    b. Plant, equipment and works area allocation
    c. Exclusion zones
    d. Site Signage
    e. Erosion and Dust controls
        i. Dust Control - Booster pump to be connected to the ring main with static and mobile nozzle point to ensure dust is managed adequately
        ii. Site and nearby kerb drains to be protected with combination of aggregate bags and geofabric to prevent ingress of excessive silt
        iii. Installation of sediment fencing where ground level falls towards drain points/road.
    f. Decommissioning/degassing of mechanical equipment
        i. Drumderg to approach a qualified subcontractor to degas and dispose of ozone depleting substances in accordance with the Ozone Protection and Synthetic Greenhouse Gas Management Act of 1989, prior to mobilisation.
2. Creation and submission of dilapidation reports to affected parties and client.

3. Mobilisation
    a. All trees and vegetation to be removed by a qualified arborist prior to mobilisation, as to create as much clearance as possible for establishment and plant/equipment movements on site.
    b. Drumderg Supervisor will ensure all staff are inducted, and briefed on this methodology, SWMS, Safety, Quality and Environmental management plans, and emergency plans with key staff holding responsibilities.
    c. Staff will then be issued PPE and verified before the pre-start briefing, and as per individual task requirements.
    d. Management personnel to set up and communicate exclusion zones with Built and other site sub-contractors, as to designate a controlled demolition area by preventing unauthorised access by physical means.
    e. Plant and equipment such as demolition excavators, attachments, posi-tracks, tool shed, etc. will then be brought onto site.
    f. Safety warning and information signage will then be displayed on the perimeter fencing and at the demolition zone entry points detailing hazard information and PPE requirements.
    g. The Site Supervisor to confirm all Service Isolation certificates per building provided by Built, and information of live services and ensure they are sufficiently protected or isolated prior to commencing soft strip and demolition.
    h. Erosion and sedimentation controls towards public areas to be implemented prior to disturbance of ground and building materials.

4. Site establishment as per the following plan:



5. Erection of scaffolding across building faces adjacent to public/neighbouring areas, as per Australian Standard 2601-2001 – The Demolition of Structures. Scaffold as per following illustrations.



2.3 SITE PRE-CLEAN

1. Any items to be retained or heritage items will be removed and/or protected and/or stored, as per their individual requirements, prior to commencement of demolition and remediation works.
2. The entirety of the site is to be completely cleared of any loose waste material and disposed of.
    a. This is a requirement prior to the commencement of hazardous waste material removal, as to avoid cross-contamination.
3. All material will be separated, segregated, placed into hook-lift bins and transported to a local facility for recycling.
4. Any non-recyclable material or hazardous waste to be disposed of as per local regulations and transported to a licensed waste facility.
5. Disposal dockets for recycled material, landfill, and hazardous material will be retained and provided to the client.

2.4 REMEDIATION OF HAZMAT

Prior to any structure disruptive works, all hazardous materials, including asbestos, lead paints, etc., as per the Napier & Blakeley's Asbestos Materials Report, are to be removed and disposed of in accordance with local regulations, the NSW Work Health & Safety Act 2011, and SafeWork NSW.

Removal works will only start on approval of the asbestos removal notification by SafeWork (approximately 7 days from notification), and once council and neighbouring properties have been notified of the works 5 working days prior.

1. Management controls will be set in place during the asbestos removal works as well as throughout the project in the case of newly identified hazardous materials.
2. Once the surrounding areas have been entirely cleared, all hazardous material removal work areas will be delineated, barricaded and signed.
3. Air monitoring will be set up by the hygienist within the surrounding work areas for both asbestos and lead.
4. Once air monitoring is setup and both the supervisor and hygienist have cleared the commencement of removal, the hazardous materials will be removed in such way that the entirety of the item is kept as unbothered as possible.
5. The remediation crew will load out all asbestos material into double plastic lined (200 µm thick minimum) Hook Lift roll-on bins.
    a. Bins to be placed as close as site access allows to the asbestos removal work area.
6. The ACM will be transported to the designated waste facility.
    a. All hazardous material transportation and disposal is tracked as per EPA requirements. Consignments and disposal dockets will be kept for Drumderg's and Built's records.
7. At the completion of the hazardous waste removal, Drumderg will approach an independent Licenced Asbestos Assessor to inspect the site and issues a clearance report per building, ensuring the site has been completely cleared of such materials.

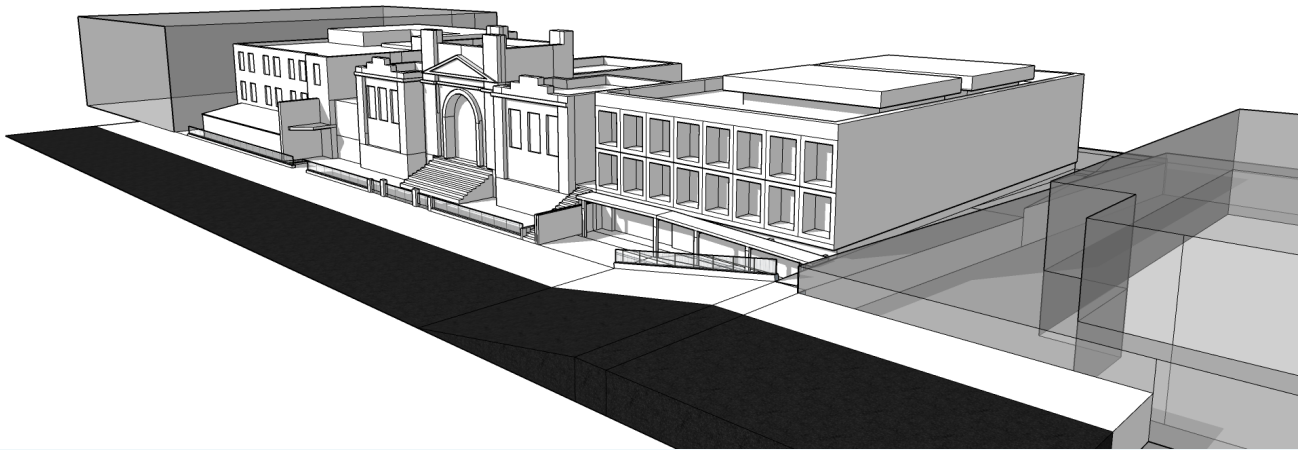
2.5 ENABLING WORKS & SOFT STRIP

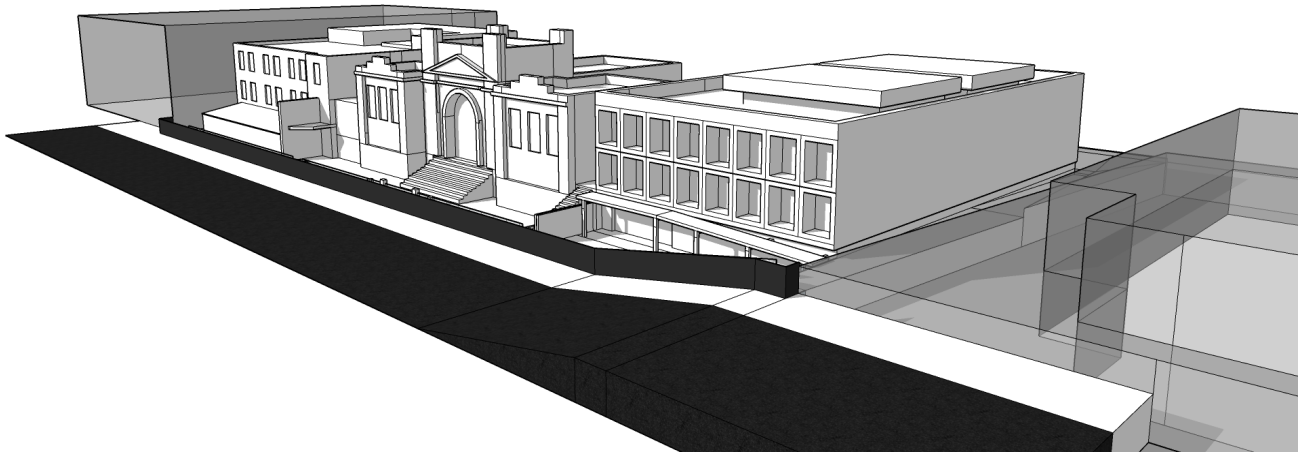
All demolition works will be performed in accordance with Australian Standard 2601:2001 – The Demolition of Structures and SafeWork NSW Demolition of Structures Code of Practice (2019).

- All plant operators and personnel will follow set out procedures to ensure all activities involving demolition are followed up as per Drumderg's and industry standards and practices.
- Hard demolition will follow a sequence where it facilitates for all hard material to be demolished within a safe area, as to prevent fall of material towards hoardings, public areas, or neighbouring properties.
- All high risk demolition areas, such as structures joined to heritage court building, are to be controlled by a high risk crew, including installation of protection systems and hand dismantling/demolition where required as to control such risks.
- Acoustic protection to neighbouring properties has been designed into demolition works methodology through the ruling out of vibrating and noisy works, such as the use of hammer excavator attachments, to the use of shears and pulverisers instead for breaking down of concrete structure, drastically minimising all noise and vibration.

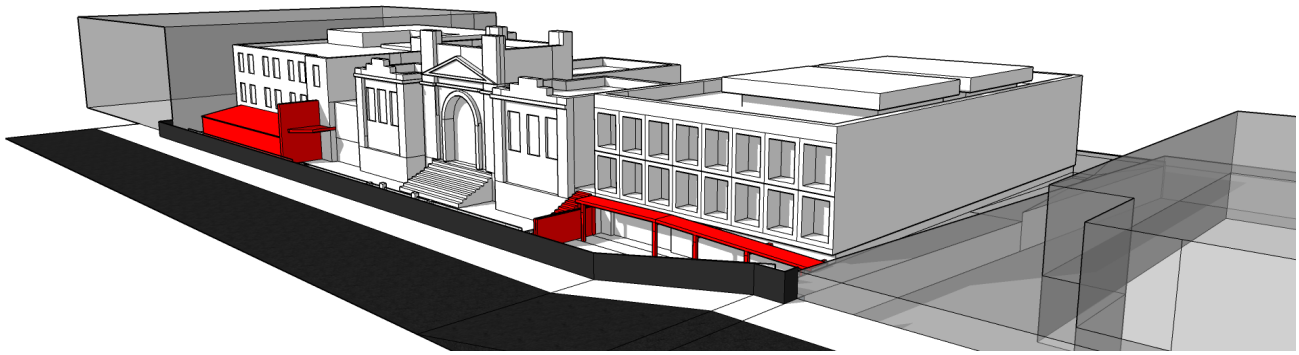
HOARDING/PUBLIC PROTECTION WORKS

1. Class A hoarding installation (by Built) prior to commencement.

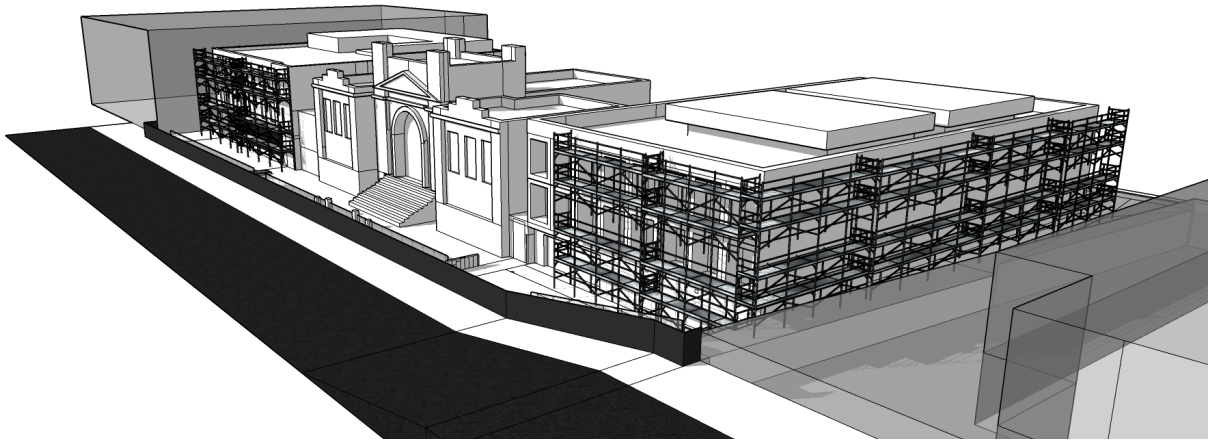




2. In concurrence with the internal strip-out of buildings, building A's 1 storey entrance area and building C's ramp are to be demolished initially, as to allow space for scaffolding across building front faces,

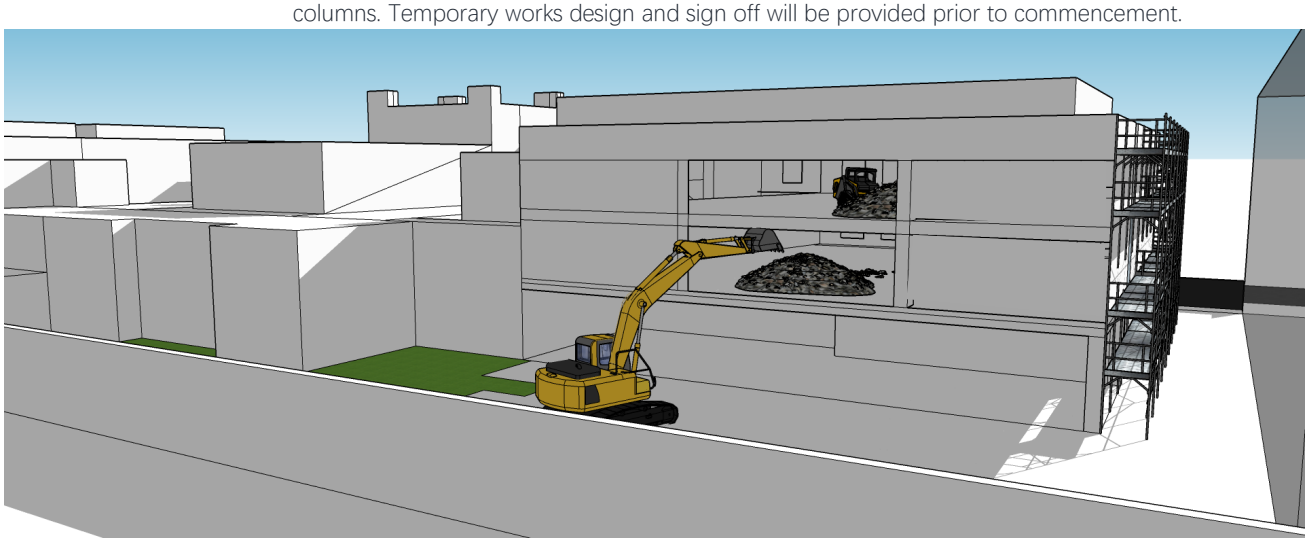


3. Installation of scaffolding on demolition and clearance of front structures. Soft Strip and enabling works building A & C buildings to continue throughout installation works.
    a. Refer to Public Protection / Hoarding Methodology provided for reference to AS2601.



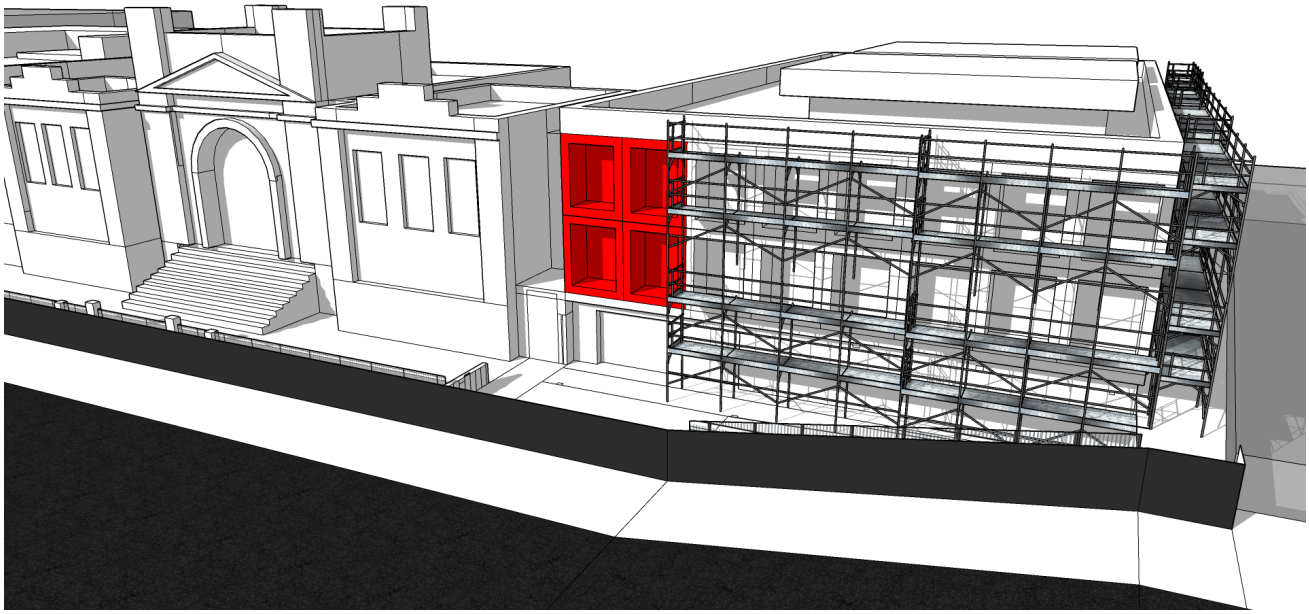
BUILDING A – SOFT STRIP & ENABLING WORKS

1. Asbestos and soft strip works will be carried out concurrently with clear exclusion and working zones in place to separate both operations. Once clearance has been provided by the hygienist for areas containing hazardous materials within each building, Drumderg will proceed with the removal of non-structural materials in those areas in building A. Soft strip will commence on Level 2, then Level 3, Level 1 and finally the roof
    a. Prioritisation of material separation to achieve maximum recycling efforts.
2. As to facilitate removal of material and maintain a continuous loadout method, all soft stripped material within building A to be pushed to the southern section of each floor, facilitated by posi-track and 1.7 tonne excavator (approved maximum slab loads by structural engineer. Documentation transmitted to Built as becomes available).
3. Infill brick walls located at the back of building A to be demolished by 25t excavator to facilitate a material 'drop-zone'. All material to be separated and placed directly into large hook bins.
    a. Live edge protection
        i. An exclusion zone will be set in place and communicated across all site personnel during and after demolition of infill brick walls.
            1. All personnel installing edge protection to be harnessed and hold working at heights ticket.
        ii. Edge protection will be installed in place in the form of steel beams, across entire span between columns. Temporary works design and sign off will be provided prior to commencement.

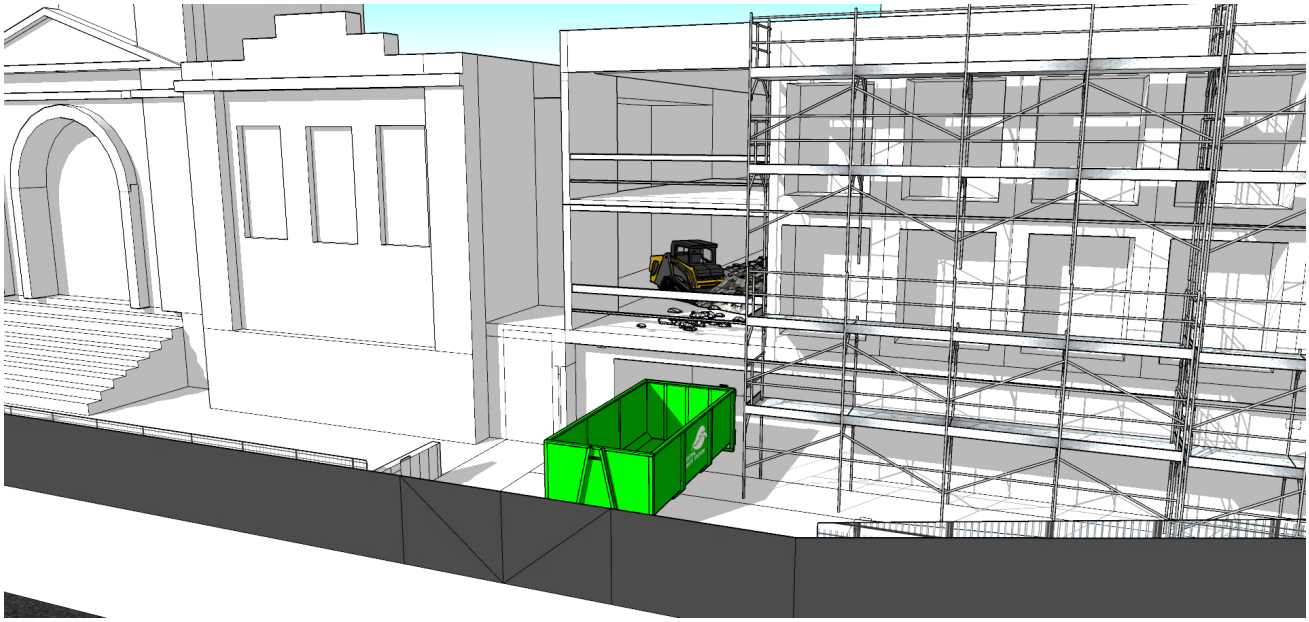


BUILDING C – SOFT STRIP

1. Asbestos and soft strip works will be carried out concurrently with clear exclusion and working zones in place to separate both operations. Once clearance has been provided by the hygienist for areas containing hazardous materials within each building, Drumderg will proceed with the removal of non-structural materials in those areas in building A. Soft strip sequence Basement - Level 1 - Level 2 - Roof. If possible floors can be stripped concurrently.
2. Openings to building C to be created to the North-East section of building,
    a. Sections of Internal single brick wall and header panels to be demolished with 0.8t excavator as to facilitate dismantling of the façade panels. The façade panels will then be removed externally using the Kobelco 23t excavator.



    b. Live edge protection
        i. An exclusion zone will be set in place and communicated across all site personnel during and after demolition of infill brick walls.
            1. All personnel installing edge protection to be harnessed and hold working at heights ticket.
        ii. Edge protection will be installed in place in the form of steel beams, across entire span between columns. Temporary works design and sign off will be provided prior to commencement.
    c. Openings to facilitate a 'drop-zone' for all soft stripped materials.
        i. Large hook bins to be placed directly below. All material to be pushed out by combination of posi-track and mini excavator.



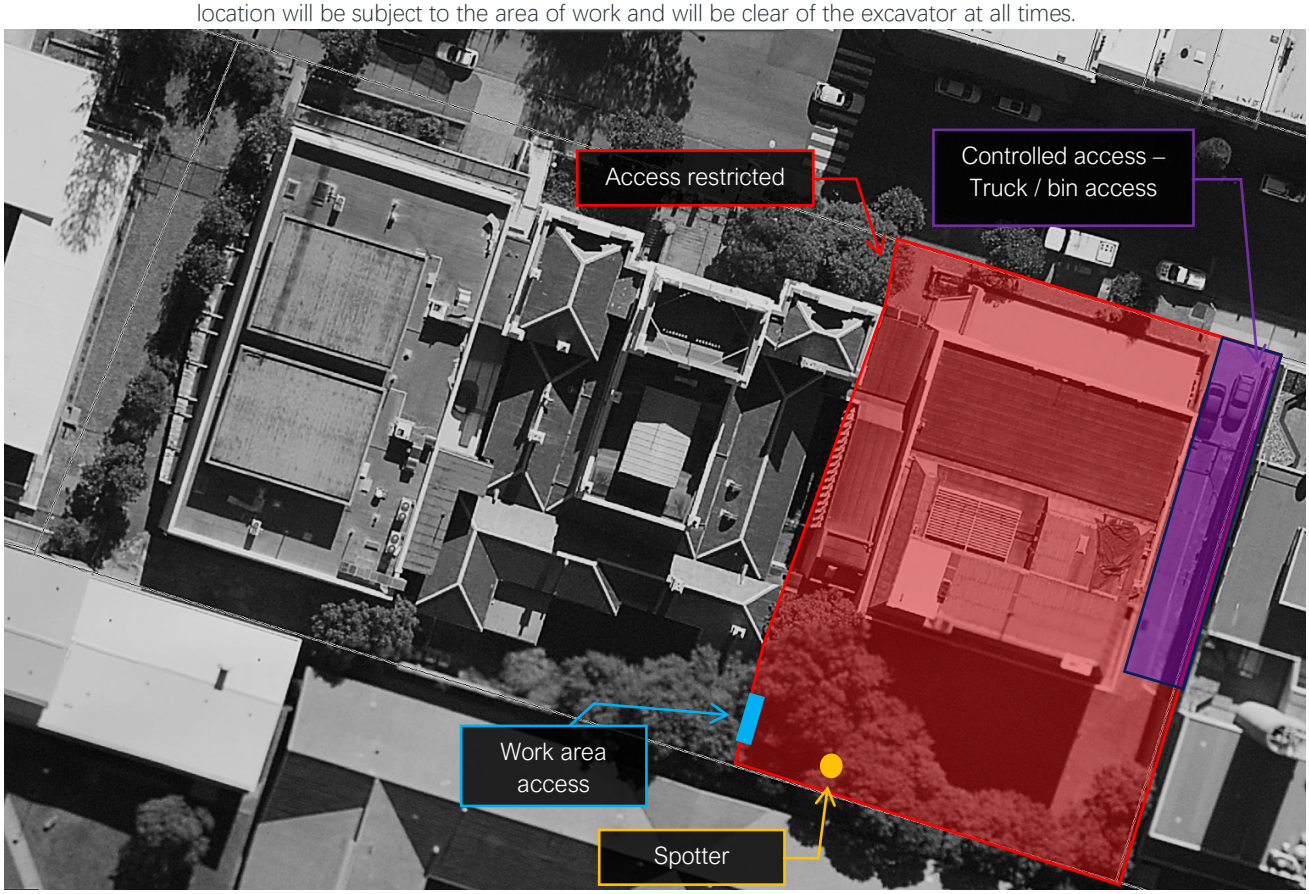
3. A 5 tonne excavator to facilitate removal of timber panelling and all soft strip within high court rooms.
4. 1.7 tonne excavator, alongside posi-track, to facilitate soft strip across all other sections and levels of this building.

5. Certification of slab loads by structural engineer for use of aforementioned plant to be provided to Built prior to mobilisation of machinery into building.

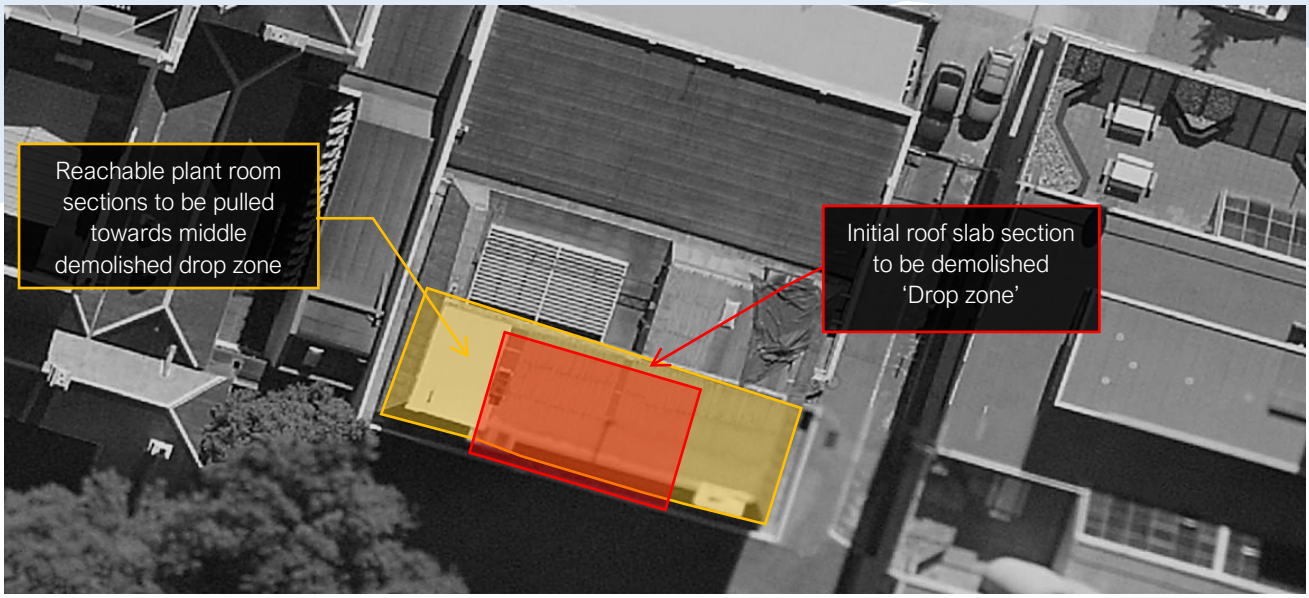
2.6 DEMOLITION

BUILDING A – HARD DEMOLITION

1. Exclusion zone to be set up as per below plan.
    a. The Spotter will be inside the exclusion zone assisting with the hose to the machine and managing the exclusion zone and works coordination with excavator operator assisted with 2-way radios. The spotter location will be subject to the area of work and will be clear of the excavator at all times.



2. Hard demolition works to be carried out with 35 tonne excavator with concrete shears attachment, including
3. All infill brick walls at the back of building to be demolished towards the inside of the building and removed from the floors to prevent debris build up.
4. Parapet wall, roof slab and columns from three middle bays to be gradually demolished as to assist removal of plant room above, by reaching and pulling material towards 2nd floor slab, to control fall of materials and facilitate the separation of material into respective stockpiles on ground level.



5. Once middle roof bays and reachable plant room materials have been cleared, excavator to proceed with demolition of south Eastern corner initially, and then proceed to Western corner

6. Hard demolition to proceed with second floor slab and columns below in a East to West sequence.
    a. Progressive loadout of material to be carried out as to maintain a clear ground/work area to continue with works.
7. Once second floor bays have been demolished and material cleared, demolition to proceed with 1st floor slabs and columns below in a East to West direction.

8. The remainder of the building to follow the same principal of demolishing slabs and columns in a per-bay sequence, Clearing top levels first and working down to ground level.
    a. Scaffolding to each bay section (full height) on driveway side to be dismantled in stages as demolition progresses.
9. Ground slab and hardstands to remain until both buildings A and C have been demolished, as to facilitate maintaining a clean work area.

NOTE: The supervisor can change the sequence on consultation with the excavator driver as work progresses.

A-B LINK BUILDING– HARD DEMOLITION

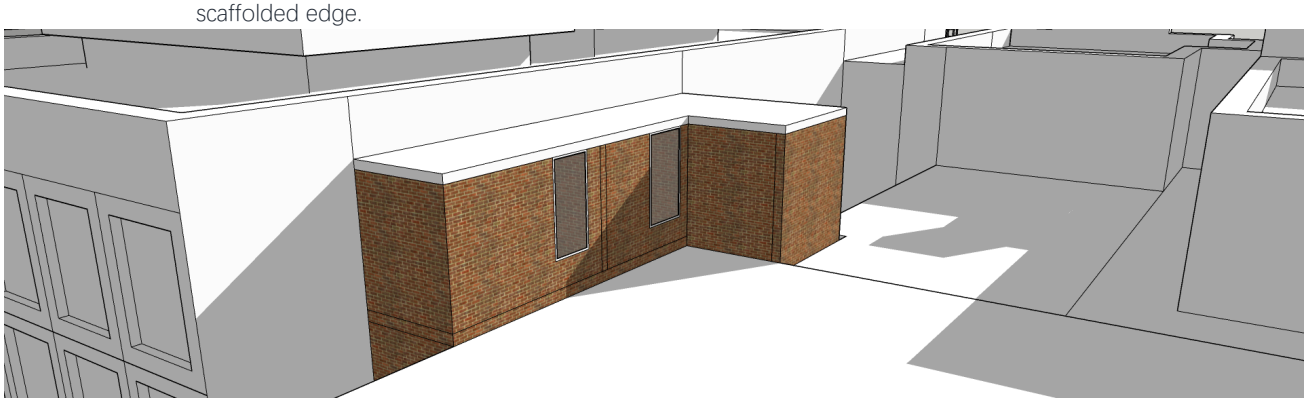
1. Heritage building windows adjoining link building to be protected with plywood across of affected faces.
2. Manual dismantling of window frames, steel louvres, ceilings, railings, etc.
3. Slab and other structural connections from Building A to building B 'Link Building' to be separated from building B
    a. Connected slabs to be saw cut to create a separation of approximately 100mm between slabs, as to facilitate a technical and careful demolition once excavator reaches this area.
    b. The link frame will be hot cut to separate the steel elements from building B under a hot works permit.
    c. Other structures, /timber roof frame to be seperated manually and carefully from building B.
        i. Dismantling works to steel structure to be undertaken by the 23t excavator with a grab attachment.
4. Excavator hard demolition to commence from the back of the link building in concurrence with the demolition sequence of the back bays of building A (refer to BUILDING A – HARD DEMOLITION item 5, 6 & 7).

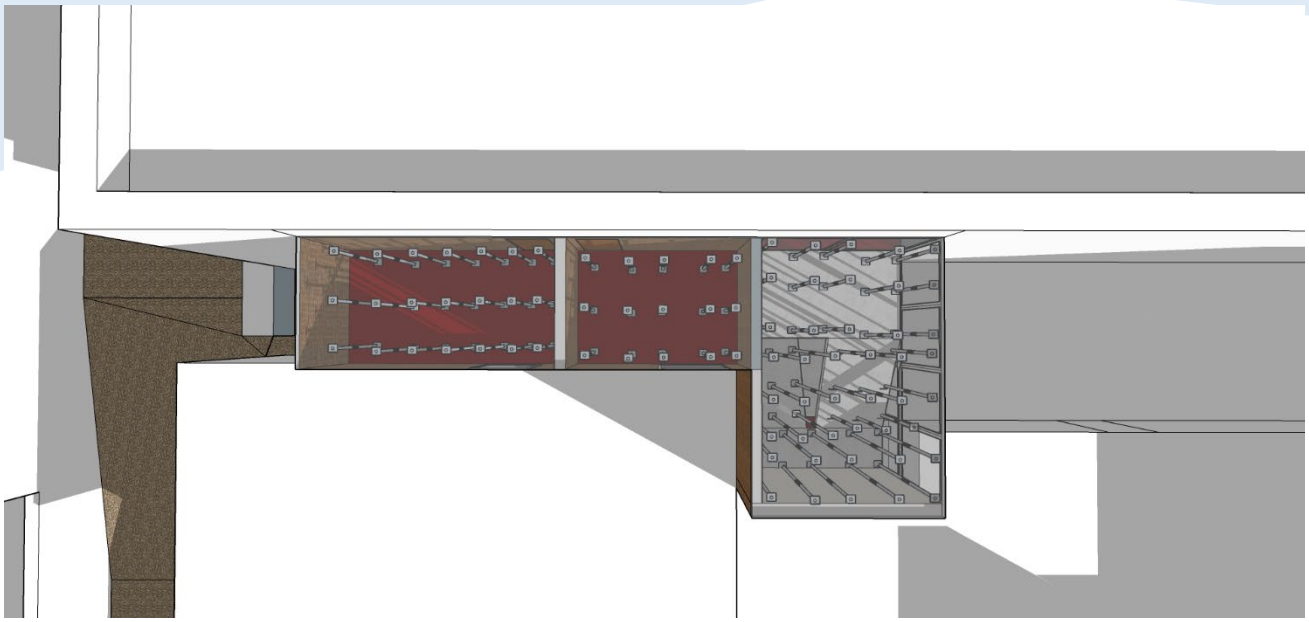
C-B LINK BUILDING– HARD DEMOLITION

1. Heritage building walls adjoining link building to be protected with plywood across entirety of affected faces.
2. Manual dismantling of window frames, ceilings, etc.
3. Erection of scaffolding around perimeter of southern link structure as to prevent fall of material onto heritage building.
    a. Scaffolding to be erected on top of existing Heritage building roof, utilising plywood to protect roof lining.

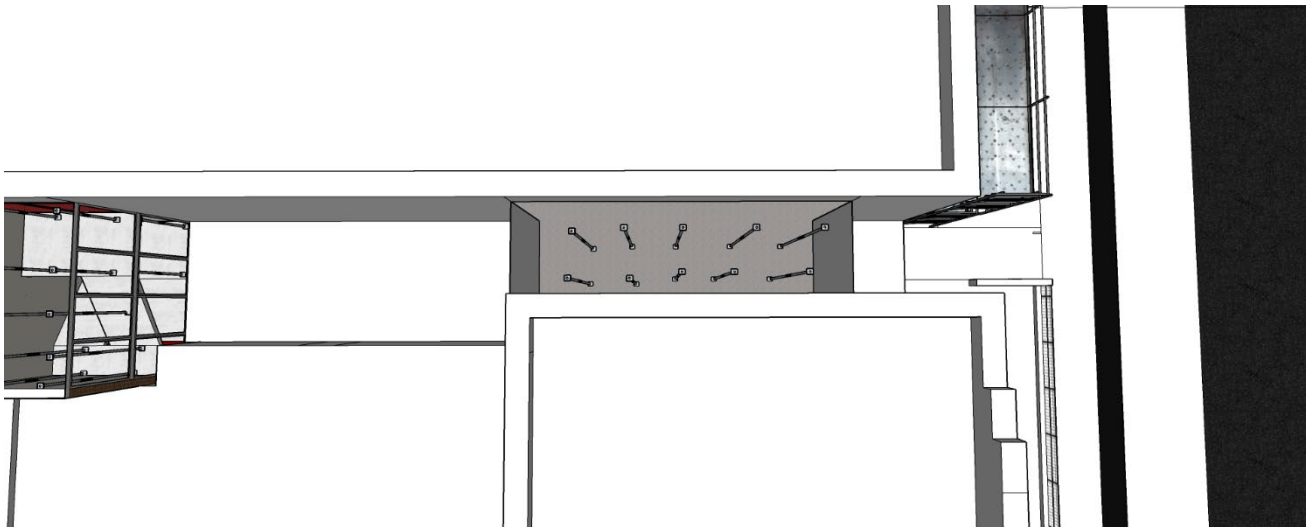
i. Scaffolding design to be certified by structural engineer, including review and certification of integrity of Building B roof

4. Acrow props to be installed below roof slab of link buildings, as to control fall of material and facilitate use of Brokk (remote controlled demolition machine).
    a. Brokk to be lifted onto roof slab, using hammer to break concrete in a sequence that moves away from scaffolded edge.



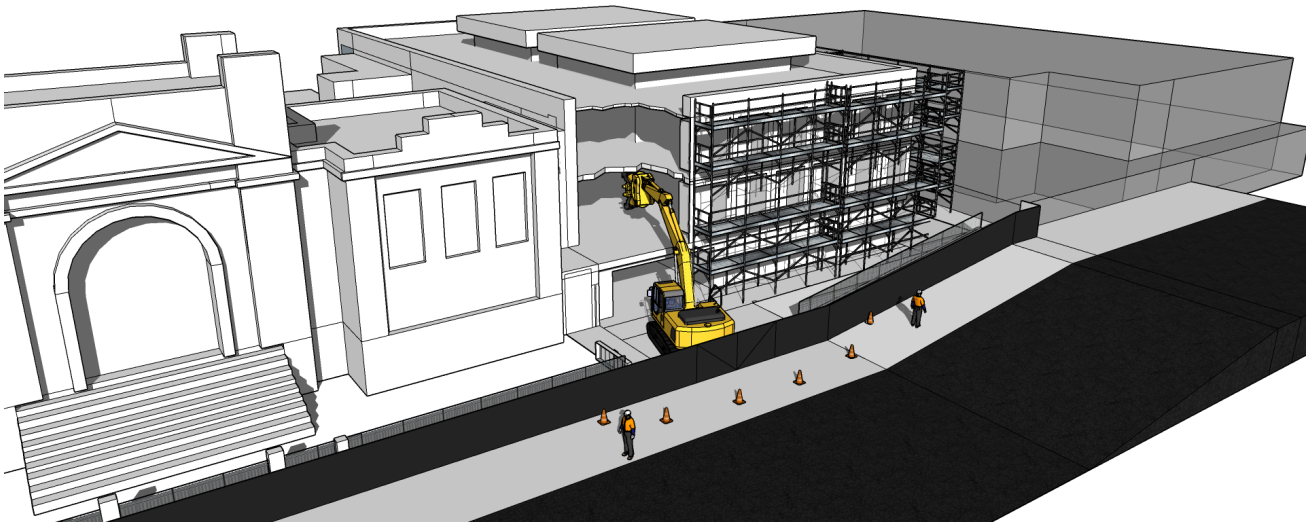


5. Acrow props to also be installed from 1st level up to roof slab of northern section of link building.

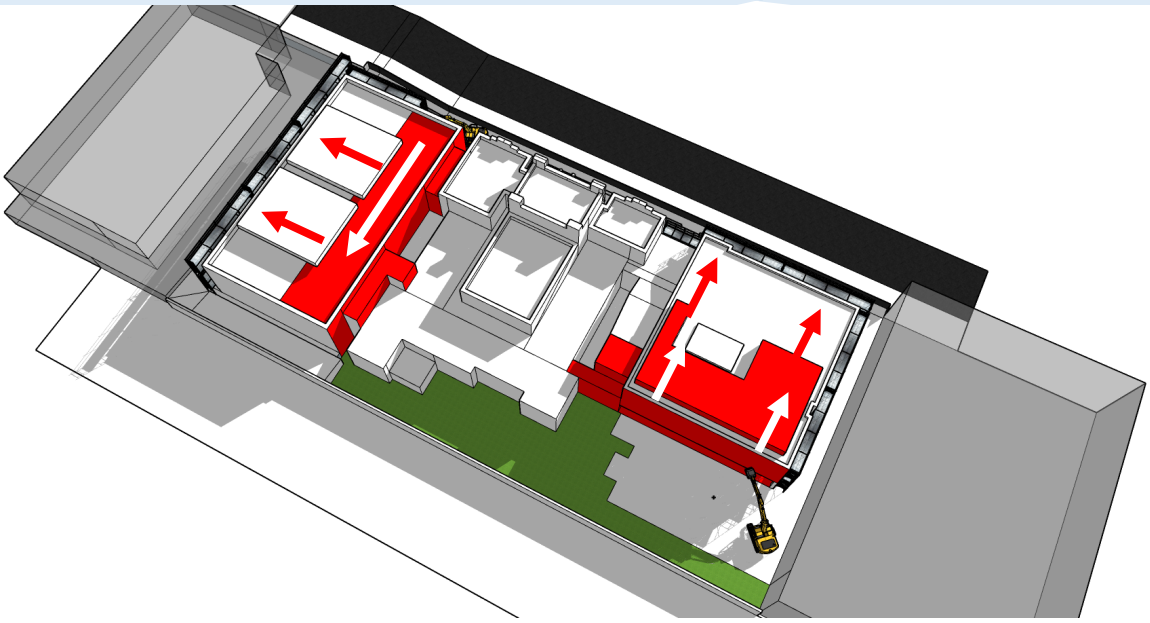


BUILDING C – HARD DEMOLITION

1. Demolition to commence from front openings created, demolishing entire bay initially as to create sufficient space for the excavator to carry out the bulk hard demolition works.
    a. Section to be initially demolished as per below illustrations
    b. Spotters on footpath adjacent to the work area to control works as to ensure safety of public spaces.



2. Demolition works to continue towards south of the building, as to create a safe work area between Building C and heritage building.
    a. All hard rubble to be piled into below ground car park as to maintain a stable platform through demolition of above ground structure.
    b. All hard rubble material to be loaded out once the structure has been demolished and enough access is created to load out material.



HARD DEMOLITION SEQUENCE – BUILDING A & C

BUILDING B HERITAGE BUILDING – SOFT STRIP & DEMOLITION

1. Internal strip of heritage building, including hard demolition of wall openings and slabs to be carried out on completion of demolition of both buildings as to create safe access for strip out and load out of materials.
    c. ITPs to be carried out for each room as per each room soft strip and demolition requirements.
    d. Crash decks to be erected against suspended slabs to be removed. Broken down manually.
        i. Material to be progressively cleared towards access areas
    e. Ground floor slabs to be saw cut and demolished by mini excavator where access allows.
    f. Wall openings to be saw cut and propped as per engineered requirements
        i. Cutting and propping methodology TBC on structural engineers confirmation per area.
            1. Drumderg to generate task specific methodology / Safe System of Work documentation prior to commencement works of each opening.
2. All waste to be placed onto its material specific assigned area and/or waste containers, while maintaining a clear work area for site movements and loadout works across the Eastern driveway.
3. Scaffolding to be dismantled in stages as demolition progresses
4. All waste to be separated to maximise recovery of resources.
5. Demolition to proceed from high risk sections to lower risk demolition areas, as to follow a sequence that allows complete clearance for movements and reach away from the heritage building during the bulk demolition of the buildings.
    g. A technical demolition crew, including supervisor and engineer to monitor and control high risk areas.
6. Ground surfaces and to be removed in concurrence with building demolitions.
7. Excavation up to 1 metre across the whole site to be carried out on completion of demolition works.
8. All site paths and waste removal areas to be kept clear of any rubble, as to maintain a safe site.
9. A recyclability report will be created and provided on completion.
    h. All other non-recyclable waste and hazardous materials will be transported to a local waste management/landfill facility.
    i. Disposal dockets and documentation for recycled material, landfill, and hazardous material will be retained and provided to the client.

2.7 COMPLETION

1. Ensure all demolished materials have all been cleaned up and transported off-site to respective recycling/waste facility, and site left in adequate condition.
2. Ensure any stored items have been claimed by the client.
3. Ensure any arising issues have been resolved and closed.
4. Capture of photographic evidence of protected items / neighbouring structures near working areas.
5. Demobilise and remove all plant, equipment, amenities, offices and any other item brought to site by Drumderg