

2016SYE122 – 678-682 Kingsway Miranda

DA16/1411

ASSESSMENT REPORT APPENDICES

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Architectural Review Advisory Panel

Proposal: Demolition of existing structures, consolidation of 3 lots into 1 lot and construction of residential flat building containing 70 units and 2 basement car parking levels

Property: 680 Kingsway MIRANDA NSW 2228

678 Kingsway MIRANDA NSW 2228

682 Kingsway MIRANDA NSW 2228

Applicant: 680-682 Kingsway Caringbah Pty Ltd

File Number: DA16/1411

The following is the report of the Architectural Review Advisory Panel Meeting held on Wednesday, 23 November 2016 at the Administration Centre, Sutherland Shire Council, Eton Street, Sutherland. The report documents the Panel's consideration of the proposed development described above.

"3. DA16/1411 – DEMOLITION OF EXISTING STRUCTURE AND CONSOLIDATION OF SITE FOR THE PURPOSE OF THE CONSTRUCTION OF A PROPOSED RESIDENTIAL FLAT BUILDING, CONSISTING OF 70 (13X1 BEDROOM; 52 X2 BEDROOM; 5X3 BEDROOM) UNITS OVER 8 STOREYS AND 2 BASEMENT CAR PARKING LEVELS AT 678 – 682 KINGSWAY & 9 PINNACLE STREET MIRANDA

Council's David Jarvis, Sinclair Croft, Carine Elias and Stevie Metcalf outlined the proposal for the Panel, including providing details of Council's relevant codes and policies.

Kent Williams & Nick Katris(architects); Elise Newman(landscape architect); George Dojas (planner); Charlie Hanna & Eddy Haddad(developers) addressed the Panel regarding the aims of the proposal and the constraints of the site.

Description of the Site and Proposal

Proposal: Demolition of existing structure and consolidation of site for the purpose of the construction of a proposed residential flat building, consisting of 70 (13x1 bedroom; 52x2 bedroom; 5x3 bedroom) units over 8 storeys and 2 basement car parking levels

Project Address: 678 – 682 Kingsway and 9 Pinnacle Street Miranda

Zoning: R4 High Density Residential

PAD: Yes (PAD16/0025)

ARAP Pre-DA: Yes (ARAP16/0009)

Key Controls:

- Sutherland Shire Local Environmental Plan 2015 (SSLEP 2015)
- Sutherland Shire Draft Development Control Plan 2015 (SSDDCP 2015)
- Sutherland Shire Pinnacle St Precinct DCP

- State Environmental Planning Policy 65 Amendment No.3 (SEPP 65)
- Apartment Design Guide (ADG)

Applicant's Submission

This is a DA submission. The consent authority is Sydney South Planning Panel (SSPP). The applicant attended an ARAP Pre-DA meeting in March 2016, and has responded positively to a number of the comments made in the previous Report.

PRINCIPLE 1 – CONTEXT AND NEIGHBOURHOOD CHARACTER

This DA for 70 units occupies 3 lots between the Kingsway and Pinnacle Street. The 2850sqm site has a 53m frontage to the Kingsway and a 22.65m frontage to Pinnacle St. The proposal was modified after the pre-DA ARAP meeting on 31 March 2016, when a scheme of 76 units at higher FSR was proposed. The site is zoned R4 High Density Residential, with a 25m (8 storeys) maximum height, a max FSR of 2:1, and 30% minimum landscaping.

The L-shaped site spans between a busy arterial road and a quiet suburban street close to the Miranda Town Centre. There is a slight fall towards the Kingsway and great outlook will be available to the north from upper levels. The precinct is in transition from a low-scale residential environment to high-density housing, and is subject to Council's Pinnacle St Precinct draft DCP, which indicates a general development pattern of 4-8 storeys to the arterial Kingsway and 4 storeys to the more suburban Pinnacle St. In addition to setbacks and heights, the DCP recommends a detailed pattern of lot amalgamation with indicative envelopes. The envelopes were tested by Council to confirm that FSR potential could be achieved to comply with SEPP65 design quality criteria. As lot amalgamations cannot be mandated, an alternative proposal such as this must therefore be rigorously tested by the applicant for design quality in order to achieve maximum development yield.

The proponent was therefore asked to demonstrate how adjacent sites would remain capable of feasible, compliant development. A rudimentary floor plan for the affected sites has been drawn for an 8-storey development on the 2 lots at 11+13 Pinnacle St to the south-west. This is not consistent with the DCP however, and the applicant needs to draw a proposal for 4 storeys stepping up to 6 storeys, to retain the DCP intent for a lower scale to Pinnacle Street. Note that ADG setbacks, solar access, and unit sizes must be applied to this neighbouring proposal (eg. 9m setback from northern boundary, not 11m as shown). The applicant also needs to demonstrate future development for adjacent lots to the east, which will be isolated unless they amalgamate with the older Department of Housing development further to the east at some point in the future.

A cross-site pathway linking Pinnacle Street to the Kingsway is included along the eastern edge, which is positive as it will provide welcome permeability. This would be best as a public path, allowing access to the main lobby and activated by adjoining terraces. It is understood however that this path will most likely remain private. If so this will not achieve the desired public permeability for the Precinct.

PRINCIPLE 2 – SCALE AND BUILT FORM

The Pre-DA proposal has been modified, now presenting as 6 and 8 storey units to Kingsway, with three storey town-houses to Pinnacle St, with entry lobbies from both the Kingsway and from the new pedestrian path to the east. The lower building height to the western portion of the Kingsway built form will improve solar access to 11-13 Pinnacle Street, but this needs to be tested for a 4-6 storey future envelope on the neighbouring site, as noted above. Removal of the two south-facing units stack would further improve solar access to the neighbouring site, as would a study of the design feasibility of combining the two vertical access cores into one larger element at the internal corner of the plan. This could also reduce the basement footprint and be replaced with communal open space at ground level, which in turn could relieve the need for the L8 rooftop communal space and the need to extend the access core above the height limit.

The two west facing units on L6 and L7 (Units 663 and 767) could also be deleted for further solar access, creation of a larger communal terrace on L6, and to resolve their awkward architectural presentation to the Kingsway frontage.

The 3-storey townhouse typology used for the south section of the site is supported, however their detailed design is not resolved in terms of expression, amenity and built form. The Panel recommends that these dwellings should step with the topography and express their party wall divisions, rather than be proposed as a single building that belies its natural order and expression.

The 6m set-back to Pinnacle St should be complied with, and the street frontage is dominated by bin storage, basement access stair, and the side wall of the southern townhouse. The latter should be re-organised to address the street frontage as well as the pedestrian pathway. Garbage would be best located in the basement with collection by private contractors, and the proposed holding area to the south of TH016 returned to landscaping.

PRINCIPLE 3 – DENSITY

Whilst the density of the proposal may comply with LEP controls, its amalgamation is not consistent with the DCP and therefore dependent on the proponent's demonstration that adjoining sites can be developed without undue adverse impacts from the proposed built form. The applicant has proposed full FSR yield, but with insufficient landscaping and unresolved solar impacts on the southern neighbour. It should be understood that unless acceptable amenity and yield to the neighbouring sites are clearly demonstrated, it would be unlikely that the proposed density and massing be accepted.

The building is also over the max building height by some 3m due to the lift serving the upper Roof Terrace. Whilst this may be acceptable as the lift will be barely visible from the public domain, the Panel would prefer the planning reconfiguration as described above to avoid the need for the lift to access the L8 roof.

PRINCIPLE 4 – SUSTAINABILITY

The proposal appears to comply with ADG solar access and natural ventilation requirements. However, over-reliance on driveway facing windows in the townhouses may reduce ventilation numbers.

Highlight windows to the presently blank (and visually unacceptable) western façade would improve cross-ventilation & daylight for these 6 units 001-555.

Active ESD provisions such as rainwater re-cycling, solar power and solar hot water were not discussed at the meeting, however it is assumed that at a minimum these measures will be included in the development.

PRINCIPLE 5 – LANDSCAPE

At about 15%, the proposal is significantly under SSLEP2015 30% requirement for deep soil/landscaped area. Adequate deep soil landscaping is needed to support large trees in the long term, which provide many benefits including the provision of shade, habitat, sense of place, privacy, reduction in visual bulk and scale, and carbon sequester. As noted, in order to meet both amenity and landscape requirements the full FSR may not be realised.

The Basement footprint has improved from the pre-DA, however still has only a 500mm setback to most of the western boundary which is insufficient for screen planting to the neighbour. In addition, it is not clear that RMS car parking rates (in lieu of Council's rates) apply to this site, which may also contribute to a car-parking shortfall. This needs to be clarified.

The ground floor and associated private open spaces of town houses 12-16 should be set higher than the adjacent pedestrian path and respond to the topography by stepping down the site. This would allow for visual surveillance, simplify stormwater drainage and improve the privacy of the townhouses/

The landscape and architectural plans show discrepancies in the treatment of the pedestrian pathway along the eastern boundary. The cross section of this space should be raised private terraces with 2m wide non-terraced planter boxes for privacy and supporting large shrubs and small trees), then a 2m wide pedestrian path (1:20 maximum slope) and a 1m wide planting strip supporting medium sized trees and screening vegetation along the boundary of the site.

Overhead lighting shown in montages may create light spill issues for neighbouring properties. Alternatives such as up-lighting along the eastern wall or in-ground footpath lighting should be explored. It should be noted that planting along the eastern boundary will also help to mediate spillage.

On-site detention basins have been located across the entire Kingsway frontage. This will place limitations on the use of shrubby species and the mass of tree foliage needed to provide privacy and mitigate the bulk and scale of the development. OSD should be located elsewhere- possibly in the form on detention

tanks within the driveway/basement, and this is to be discussed further with Council's engineers.

Nine entry paths are proposed along the Kingsway frontage. Where possible these paths should be amalgamated to reduce the visual impact of built form within the front setback.

Communal open space at ground level is not of high quality as it is largely shaded and may create adverse privacy impacts on adjacent units (refer previous comments)

PRINCIPLE 6 – AMENITY

The following amenity issues require attention:

- Townhouse gardens and living rooms floor levels should be raised to be 600mm min above the adjacent pathway for privacy
- Snorkel bedroom windows realigned to comply with ADG
- Entries to Kingsway-facing single-sided 2-bed units may be better between the kitchen and sleeping areas
- Row house ground level windows looking onto driveway must be protected from noise and air pollution
- Adaptable bathrooms are too narrow and very long; it is recommended that standard complying bathroom dimensions are used when planning adaptable apartments, so that the changes required for adaption is minimised.
- Units 663 and 767 adjacent to COS have two bedrooms with highlight windows only
- For units around the western core, access to ground level COS is convoluted and inconvenient.
- Shading, seating, BBQ, bathroom and kitchen facilities should be provided for COS, as well as weather protection for lift and stair doors.
- Townhouse ground level living areas are poorly proportioned (furniture needs to be shown),

As described, assessment of solar access to the future southern neighbour should be calculated for 6 storeys with a 9m setback to its northern boundary.

PRINCIPLE 7 – SAFETY

Security fencing locations and detail to be provided. The Panel supports public access to the new pedestrian path without gates, and to have secure fencing and gates to the passage north of the townhouses and to other side boundaries. Security to the carpark access ramp is recommended.

The street lighting for the new pedestrian path needs to be designed to avoid light spill to the eastern neighbour.

There is good surveillance of the new pedestrian path. However, surveillance of Pinnacle Street needs to be improved from the townhouses, and there should be a vehicle buffer to the western wall adjacent to the driveway.

PRINCIPLE 8 – HOUSING DIVERSITY AND SOCIAL INTERACTION

Generally acceptable.

Adaptable unit plans should require less change to plumbing and fixtures in both kitchens and bathrooms, to encourage economical conversion for ageing-in-place.

There is generous common open space provided, particularly the L6 terrace. Social interaction along the new pedestrian path would be improved by providing some seating.

PRINCIPLE 9 – AESTHETICS

Potentially this is an attractive and robust design response to the site. The facades offer a restrained materials palette with competent articulation and ordering.

Some façade refinements should be considered :

- the north facing expression at upper levels disappears when it turns to the east –continue this expression at least for the depth of the Kingsway facing units
- it is noted that whilst the strong horizontality of the scheme is acceptable, the Panel were attracted to the previous schemes fine-grained vertical expression and subtle character changes.
- the current expression of the townhouses is not consistent with the plans, and it is recommended that these are individually expressed as a good solution for a mews style development.
- the presently blank and visually unacceptable western façade of the 6 storey Kingsway building is not acceptable

RECOMMENDATIONS

The proposal has improved since last reviewed, however there are key matters yet to be resolved and the Panel make the following recommendations:

- As this development cannot comply with Council's Pinnacle Street master plan, the applicant must demonstrate that acceptable design quality is achieved in order to realise the available maximum density (FSR)
- Capacity for feasible and compliant development of neighbouring south site to be further investigated and confirmed
- ADG and Council setbacks to be complied with
- Council landscape and deep soil provisions to be increased
- Pathway to be designed for and available for 24 hour public use
- Internal planning revisions as various/y noted in Report
- Townhouse floor levels and architectural expression to be resolved"

Tony Caro

ARAP Chairman

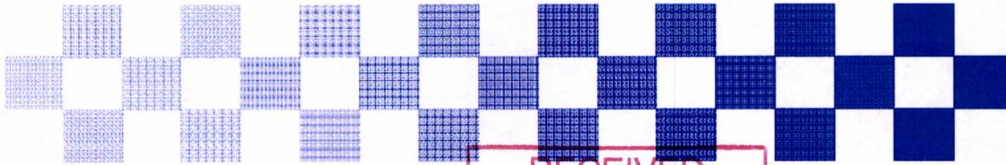
13 December 2016

Submissions were received from the following properties:

Address	Date of Letter/s	Issues
11 Pinnacle Street, Miranda	26 October 2016	2, 4, 7
14 Matson Crescent, Miranda	30 October 2016, 1 February 2017	3, 7
PO Box 501, Enfield	15 November 2016, 8 February 2017	2, 7
15 Pinnacle Street, Miranda	23 November 2016, 8 February 2017	2, 3, 7
17 Pinnacle Street, Miranda	23 November 2016, 9 February 2017	2, 7
11 Pinnacle Street, Miranda	23 November 2016, 9 February 2017	1, 2, 4, 5, 7
13 Pinnacle Street, Miranda	23 November 2016, 13 February 2017	4, 7, 13
1/7 Pinnacle Street, Miranda	23 November 2016, 8 February 2017	1, 2, 4, 5, 6, 7
676 Kingsway, Miranda	10 February 2017	2, 7

Key for issues:

Issue No.	Issue
1	Views
2	Overshadowing / Solar Access
3	Reduce Property Value
4	Laneway at 13R Pinnacle Street
5	Amenity of Adjoining Properties
6	Safety
7	Design/Aesthetics/Streetscape, Traffic/Car Parking, Inaccurate Plans / SEE, Privacy, Height / Bulk / Scale, Does not comply with LEP/DCP, Development Potential of Isolated Lots



NSW Police Force
www.police.nsw.gov.au

RECEIVED
22 DEC 2016

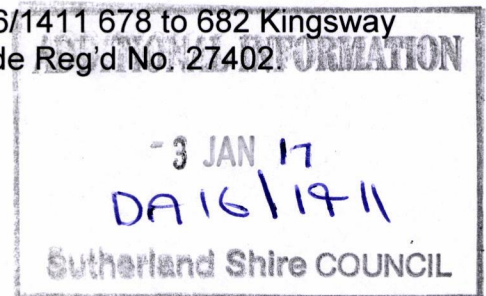
ISSUE:

Submission regarding Development Application No. DA16/1411 678 to 682 Kingsway Miranda submitted by Senior Constable Christopher Shade Reg'd No. 27402

BACKGROUND:

See attached file.

COMMENT:



Development Application No.: DA16/1411

Proposal: Demolition of existing structures, consolidation of 3 lots into 1 lot and construction of residential flat building containing 70 units and 2 basement car parking levels

Property: 678 to 682 Kingsway, Miranda.

Police Ref: D/2016/633141

We refer to your development application which seeks approval for the development of 678 to 682 Kingsway, Miranda and the consolidation of 2 lots into 1 lot for the construction of a residential flat building containing 70 units and 2 levels of underground parking. Such activity will subsequently increase the risk of crime, along with increasing crime opportunities and potential offenders to the development and its surroundings. After perusing the paperwork the following suggested treatment options are submitted for consideration including a number of Crime Prevention strategies through Environmental Design (CPTED) factors that should be considered in this development.

Surveillance

The attractiveness of crime targets can be reduced by providing opportunities for effective surveillance, both natural and technical. Good surveillance means that people can see what others are doing. People feel safe in public areas when they can easily see and interact with others. Would-be offenders are often deterred from committing crime in areas with high levels of surveillance.

Lighting and Technical Supervision

Miranda Local Area Command

34 Kingsway, Cronulla

Telephone 02 9527 8199 Facsimile 02 9527 8137 E/Net 58199 E/Fax 58137 TTY 9211 3776 (Hearing/Speech impaired)

ABN 43 408 613 180

NSW POLICE FORCE RECRUITING NOW 1800 222 122

WWW.POLICE.NSW.GOV.AU/RECRUITMENT

SSPP (Sydney South) Business Paper Appendices - (21 March 2017) (2016SYE122) (DA16/1411)

Lighting should meet minimum Australian standards. Effective lighting contributes to safety by improving visibility, increasing the chance that offenders can be detected and decreasing fear. Special attention should be made to lighting the entry and exit points from the buildings, pathways throughout the site, car park and access/exit driveways.

The access/exit driveways need to be adequately lit to improve visibility and increase the likelihood that offenders will be detected and apprehended. At the same time throughout the site transition lighting is needed to reduce vision impairment, i.e. reducing a person walking from dark to light places.

Security lighting should not illuminate observers or vantage points. Within the residential complex, observers are likely to be "inside" dwellings. Light should be projected away from buildings towards pathways and gates – not towards windows and doors. Additionally, the central pathway through the complex should provide adequate lighting for pedestrian safety.

Landscaping

The safety objective of "to see and be seen" is important in landscaped areas. Research and strong anecdotal evidence suggests that vegetation is commonly used by criminals to aid concealment through the provision of entrapment pockets. Dense vegetation can provide concealment and entrapment opportunities.

Species can be selected for different locations on the basis of their heights, bulk and shape. A safety convention for vegetation is: lower tree limbs should be above average head height, and shrubs should not provide easy concealment. It is recommended that 3-5m of cleared space be located either side of residential pathways. Thereafter, vegetation can be stepped back in height to maximise sightlines.

Given the inclusion of shrubs and trees throughout the site within the proposed development, it must be emphasised that the vegetation be kept trimmed and maintained at all times.

Access Control

Physical and symbolic barriers can be used to attract, channel or restrict the movement of people. They minimise opportunities for crime and increase the effort required to commit crime. By making it clear where people are permitted to go or not go, it becomes difficult for potential offenders to reach and victimise people and their property.

Illegible boundary markers and confusing spatial definition make it easy for criminals to make excuses for being in restricted areas. It is, however, crucial that these access control measures be considered.

Consideration should be given to installing security shutters at the entry to the underground car park area. It is noted that the following 'can be conditioned' - *"where security measures to car parks are provided an intercom system shall be installed for*

visitors to gain entry. This system shall incorporate a CCTV system to ensure that the visitor space availability can be determined" (Annexure B, SSDCP 2006 Compliance Table, p.15). This security control measure should strongly be considered prior to approval of this development application.

Police would recommend that all residents are allocated access cards to provide temporary activation of security shutters to the basement area.

The proposal does not specify the type of locks to be fitted to roller doors within the basement car park area. Police would recommend that garage doors are designed and installed to the Australian Standards, fitted with quality locks. Within the local area, a common *modus operandi* of break and enter offenders whilst targeting premises of similar nature, is to access the residential premise via the garage area. Hence, quality deadlock sets should be fitted to internal doors leading from the garage area into individual townhouses. Storage doors within the garage area should also be fitted with quality deadlocks.

Police recommend that the underground car parking areas be painted white to greatly help to reflect light. Painted facilities not only look larger and more spacious than unpainted car parks, but can greatly reduce the number of lights required to illuminate the car park and on-going energy costs.

Police would suggest the use of CCTV to monitor the common areas, access/exit driveways and underground car parks to ensure resident safety and security.

Internal residential entrance doors and frames should be of solid construction. These doors should be fitted with quality deadlock sets, which comply with the Australian/New Zealand standards and Fire Regulations (Australian Building Code) to enable occupants to escape in emergency situations such as a fire. Consideration should be given to installing key operated locks to windows. In addition to this, consideration should be given to installing locks that allow for windows and doors in a partially open position.

Territorial Reinforcement

With few exceptions, criminals do not want to be detected, challenged or apprehended. For offenders, the capability of guardianship (to detect, challenge or apprehend) is an important consideration. It is argued that residents are more effective as guardians (crime deterrents) than passing members of the community.

Territorial reinforcement can be achieved through:

- ✓ Design that encourages people to gather in public space and to feel some responsibility for its use and condition
- ✓ Design with clear transitions and boundaries between public and private space
- ✓ Clear design cues on who is to use the space and what it is to be used for. Care is needed to ensure that territorial reinforcement is not achieved by making public spaces private spaces, through gates and enclosures.

- **Environmental Maintenance**

Clean, well-maintained areas often exhibit strong territorial cues. Rundown areas negatively impact upon perceptions of fear and may affect community confidence to use public space and ultimately, it may affect crime opportunity. Vandalism can induce fear and avoidance behaviour in a public space, therefore the rapid repair of vandalism and graffiti, the replacement of car park lighting and general site cleanliness is important to create a feeling of ownership. Ownership increases the likelihood that people will report or attempt to prevent crime.

Many graffiti vandals favour porous building surfaces, as 'tags' are difficult to remove. Often a ghost image will remain even after cleaning. Easily damaged building materials may be less expensive to purchase initially, but their susceptibility to vandalism can make them a costly proposition in the long term, particularly in at-risk areas. This should be considered when selecting materials for construction.

The overall design of the outdoor "common areas" should include low barrier vegetation, bright/even lighting, wide/even paving, effective guardianship and an absence of entrapment opportunities. In addition to visible street numbering at the entrance to the complex, and throughout, this development should contain clearly signposted directional signage to assist both visitors and emergency services personnel.

Lighting

Offenders within the area target this type of development, both in its construction phase and when the units are occupied. Police would recommend the use of security sensor lights and a security company to monitor the site while construction is in progress.

Car Park Security

One of the major issues that have been brought to Police attention in this Local Government Area is the prevalence of offenders breaching the security access to the car park areas, and breaking into the vehicles. Due to the isolation of the garages, these offences are not usually noticed by the owners until much later. It is suggested that this area be monitored by CCTV and appropriately sign-posted to deter potential offenders.

Way-finding

Way-finding in large environments such as this proposed development site can be confusing. Design and definitional legibility is an important safety issue at these locations. Knowing how and where to enter and exit, and find assistance within the development, can impact perceptions of safety, victim vulnerability and crime opportunity. Signage should *reinforce*, but not be an alternative to legible design.

Intruder alarm system

- A monitored intruder alarm system which complies with the ***Australian Standard – Systems Installed within Clients Premises, AS:2201.***

<http://www.standards.org.au> should be installed within the business to enhance the physical security and assist in the detection of unauthorised entry.

- This standard specifies the minimum requirements for intruder alarm equipment and installed systems.
- It shall apply to intruder alarm systems in private premises, commercial premises and special installations.
- The system should be checked and tested on a regular (at least monthly) basis to ensure that it is operating effectively.
- Staff should be trained in the correct use of the system.
- As a number of businesses have had telephone lines cut to prevent alarms being reported to the security monitoring company, a supplementary system such as Global Satellite Mobile (GSM) or Radio Frequency (RF) systems should be used to transmit alarm signal by either mobile telephone or radio frequency. The light emitting diodes (LED red lights) within the detectors should be deactivated, to avoid offenders being able to test the range of the system.
- Consideration should also be given to incorporating duress facility into the system to enable staff to activate the system manually in the event of an emergency, such as a robbery.
- **NB Duress devices should only be used when it is safe to do so.**

Closed Circuit Television System (CCTV)

- A Closed Circuit Television System (CCTV) which complies with **Australian Standard – Closed Circuit Television System (CCTV) AS:4806.1.2.3.4.** <http://www.standards.org.au> should be installed within these premises to receive, hold or process data for the identification of people involved in anti-social or criminal behaviour.
- The system is obliged to conform with Federal & State Privacy and Surveillance Legislation.
- Staff need to be trained in the operation of the system.
- The system should consist of surveillance cameras strategically located in and around the premises to provide maximum surveillance coverage of the area, particularly areas which are difficult to supervise.
- These cameras should be positioned so as to view one another protecting themselves from tampering.
- One or more cameras should be strategically mounted at entry/egress points to monitor activities around these areas.
- Digital or analogue technology should be used to receive, store and process data.
- This equipment should be secured away from public access areas to restrict tampering with the equipment and data.

The NSW Police Force (NSWPF) has a vital interest in ensuring the safety of members of the community and their property. By using recommendations contained in this evaluation any person who does so acknowledges that:

- *It is not possible to make areas evaluated by the NSWPF absolutely safe for the community and their property*

- Recommendations are based upon information provided to, and observations made by the NSWPF at the time the evaluation was made
- The evaluation is a confidential document and is for use by the Council or the organisation referred to on page one
- The contents of this evaluation are not to be copied or circulated otherwise than for the purpose of the Council or the organisation referred to on page one.
- The NSWPF hopes that by using recommendations contained within this document, criminal activity will be reduced and the safety of members of the community and their property will be increased. However, it does not guarantee that the area evaluated will be free from criminal activity if its recommendations are followed.

RECOMMENDATION:

There are no objections to this proposal however it is recommended the above Crime Prevention Through Environmental Design (CPTED) should be considered in this development.

CS

Christopher Shade
Senior Constable
Crime Prevention Officer
Miranda Local Area Command
9 December, 2016.
Ph: 9541 3899

- 1) Detective Sergeant Donaghy – A/Crime Manager, Miranda LAC

No objections however CPTED should be considered and the recommendations within undertaken.

- 2) Meredith Alach, Sutherland Shire Council

*K DONAGHY
D/A/Inspector
14/12/16*

ANNEXURE C

Clause 4.6 Variation - Building Height



Clause 4.6 variation statement – maximum height (Clause 4.3)

Clause 4.3 (2) of SLEP 2015 relates to the maximum height requirements and refers to the Height of Buildings Map. The relevant map identifies the subject site as having a maximum height of 25m. Building height is defined as:

“building height (or height of building) means the vertical distance between ground level (existing) and the highest point of the building, including plant and lift overruns, but excluding communication devices, antennae, satellite dishes, masts, flagpoles, chimneys, flues and the like.”

As indicated in the section plan included in Figure 1 below, the proposed roof slab and the lift/stair core on the northern building breach the maximum height. The height breach is a maximum of 28.3m limited to the lift overrun and 25.5m to a portion of the building on the eastern elevation. Other portions of the buildings comply with the maximum LEP height control for the site.

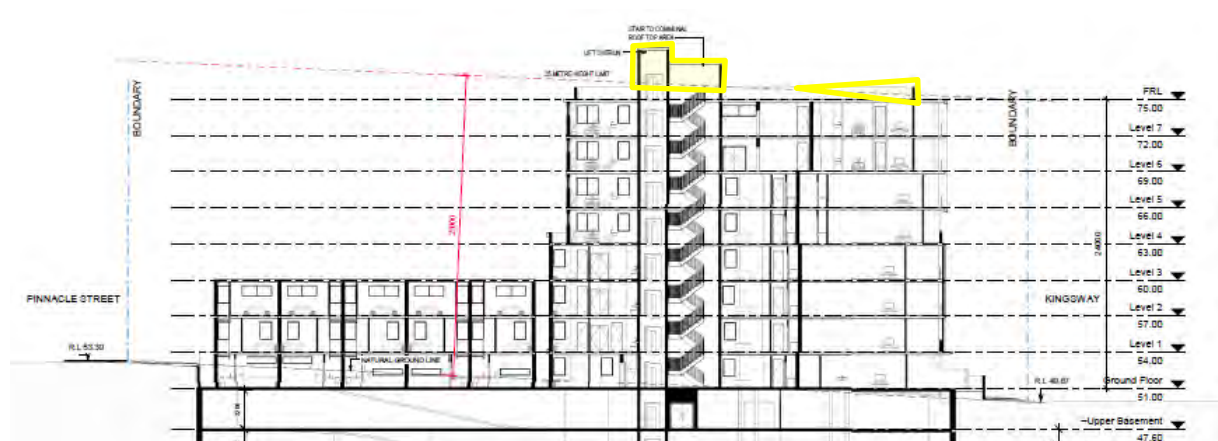


Figure 1: Section showing extent of height non-compliance (highlighted in yellow)

That maximum height control is a “development standard” to which exceptions can be granted pursuant to clause 4.6 of the LEP.

The objectives and provisions of clause 4.6 are as follows:

“4.6 Exceptions to development standards

- (1) The objectives of this clause are as follows:*
 - (a) to provide an appropriate degree of flexibility in applying certain development standards to particular development,*
 - (b) to achieve better outcomes for and from development by allowing flexibility in particular circumstances.*
- (2) Development consent may, subject to this clause, be granted for development even though the development would contravene a development standard imposed by this or any other environmental planning instrument. However, this clause does not apply to a development standard that is expressly excluded from the operation of this clause.*
- (3) Development consent must not be granted for development that contravenes a development standard unless the consent authority has considered a written request from the applicant that seeks to justify the contravention of the development standard by demonstrating:*



- (a) *that compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and*
 - (b) *that there are sufficient environmental planning grounds to justify contravening the development standard.*
 - (4) *Development consent must not be granted for development that contravenes a development standard unless:*
 - (a) *the consent authority is satisfied that:*
 - (i) *the applicant's written request has adequately addressed the matters required to be demonstrated by subclause (3), and*
 - (ii) *the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is proposed to be carried out, and*
 - (b) *the concurrence of the Director-General has been obtained.*
 - (5) *In deciding whether to grant concurrence, the Director-General must consider:*
 - (a) *whether contravention of the development standard raises any matter of significance for State or regional environmental planning, and*
 - (b) *the public benefit of maintaining the development standard, and*
 - (c) *any other matters required to be taken into consideration by the Director-General before granting concurrence.*
 - (6) *Development consent must not be granted under this clause for a subdivision of land in Zone RU1 Primary Production, Zone RU2 Rural Landscape, Zone RU3 Forestry, Zone RU4 Primary Production Small Lots, Zone RU6 Transition, Zone R5 Large Lot Residential, Zone E2 Environmental Conservation, Zone E3 Environmental Management or Zone E4 Environmental Living if:*
 - (a) *the subdivision will result in 2 or more lots of less than the minimum area specified for such lots by a development standard, or*
 - (b) *the subdivision will result in at least one lot that is less than 90% of the minimum area specified for such a lot by a development standard.*
- Note.** *When this Plan was made it did not include Zone RU1 Primary Production, Zone RU2 Rural Landscape, Zone RU3 Forestry, Zone RU4 Primary Production Small Lots, Zone RU6 Transition, Zone R5 Large Lot Residential, Zone E2 Environmental Conservation, Zone E3 Environmental Management or Zone E4 Environmental Living.*
- (7) *After determining a development application made pursuant to this clause, the consent authority must keep a record of its assessment of the factors required to be addressed in the applicant's written request referred to in subclause (3).*
 - (8) *This clause does not allow development consent to be granted for development that would contravene any of the following:*
 - (a) *a development standard for complying development,*
 - (b) *a development standard that arises, under the regulations under the Act, in connection with a commitment set out in a BASIX certificate for a building to which State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 applies or for the land on which such a building is situated,*
 - (c) *clause 5.4,*
 - (ca) *clause 4.3A (2)."*

The development standards in clause 4.3 are not "expressly excluded" from the operation of clause 4.6.

Objective 1(a) of clause 4.6 is satisfied by the discretion granted to a consent authority by virtue of subclause 4.6(2) and the limitations to that discretion contained in subclauses (3) to (8). This submission will address the requirements of subclauses 4.6(3) & (4) in order to demonstrate to Council that the exception sought is consistent with the exercise of "an appropriate degree of flexibility" in applying the development standard, and is therefore consistent with objective



1(a). In this regard, the extent of the discretion afforded by subclause 4.6(2) is not numerically limited, in contrast with the development standards referred to in, subclause 4.6(6).

Objective 1(b) of clause 4.6 is addressed later in this request.

The objectives and relevant provisions of clause 4.3 are as follows, inter alia:

"4.3 Height of buildings

(1) The objectives of this clause are as follows:

(a) to ensure that the scale of buildings:

(i) is compatible with adjoining development, and

(ii) is consistent with the desired scale and character of the street and locality in which the buildings are located or the desired future scale and character, and

(iii) complements any natural landscape setting of the buildings,

(b) to allow reasonable daylight access to all buildings and the public domain,

(c) to minimise the impacts of new buildings on adjoining or nearby properties from loss of views, loss of privacy, overshadowing or visual intrusion,

(d) to ensure that the visual impact of buildings is minimised when viewed from adjoining properties, the street, waterways and public reserves,

(e) to ensure, where possible, that the height of non-residential buildings in residential zones is compatible with the scale of residential buildings in those zones,

(f) to achieve transitions in building scale from higher intensity employment and retail centres to surrounding residential areas.

The Height of Buildings Map nominates a maximum height of 25m for the site. It is hereby requested that an exception to this development standard be granted pursuant to Clause 4.6 so as to permit a maximum height of 28.3m for the subject development.

Objectives (e) and (f) are not applicable to the proposal. In order to address the requirements of subclause 4.6(4)(a)(ii), each of the relevant objectives of clause 4.3 are addressed in turn below.

OBJECTIVE (A)

The proposed encroachment into the maximum building height is considered to be minor and will not substantially change the appearance of the proposal within the locality, nor will the additional height be readily apparent or obvious to the casual observer at street level or from adjoining properties.

The proposed building has been designed to a high architectural standard. It has also been designed to relate to the sloping site topography and to minimise visual bulk along the street frontage. The proposed design provides a well resolved building that successfully relates to neighbouring sites and the street. Furthermore, the proposed residential flat development complies with the maximum floor space ratio (FSR) of 2:1 applicable to the site. Compliance with the FSR development standard ensures an appropriate bulk and scale is achieved onsite.

The proposed non-compliant portion is solely related to small portions of one building, which has been minimised as far as practical. It would be counter-productive to the architectural resolution to reduce the floorplate of the upper level to achieve height compliance. In addition, the lift and stair core are required to access the proposed communal open space located on the roof (level 8).

OBJECTIVE (B)

It is considered that the proposal responds appropriately to the site and results in impacts that could be expected of the applicable planning controls. The minor variation to the building height will not impact on solar access to surrounding



properties when compared to a fully compliant scheme as the lift and stair core are located centrally on the building. As such, no overshadowing impacts will be created as a result of the non-compliance.

As demonstrated in the shadow diagrams, due to the orientation of the subject site, the proposed development inevitably overshadows southern adjacent sites. A detailed discussion on solar access and overshadowing is addressed within the Statement. The proposal generally complies with the building height standard, the minor variation does not increase the extent of overshadowing on neighbouring properties. In addition, it has been demonstrated that the development will achieve compliant solar access to all units proposed within the development.

OBJECTIVE (C):

The development overall (and the proposed height variation in particular) will not create any significant or noticeable environmental or amenity based impacts on the streetscape, surrounding properties or the immediate locality. The proposed non-compliance will not have any additional or detrimental impacts on residential privacy within the proposed development or on surrounding properties due to the design of individual unit layouts. The majority of dwellings are orientated towards the Kingsway, which reduces adverse privacy impacts to neighbouring properties and takes advantage of the northern aspect for solar access. The lift and stair core are required for access to the roof communal open space which will provide superior amenity to future occupants.

There are no existing scenic views from surrounding neighbours gained across the site and overshadowing has been discussed in relation to Objective (b) above.

OBJECTIVE (D):

The proposed design avoids any significant adverse visual impacts relating to building bulk and scale, and impacts on neighbouring properties. The proposal complies with the FSR (2:1) of the subject site, and the building largely complies with the building height limiting the overall visual impact of the development.

The proposed building is well articulated, incorporating varied setbacks, alternation between horizontal and vertical modulation and use of varied materials, colours and detailing to provide a highly articulated built form with a contemporary external appearance. Specifically, the architectural form is sympathetic to the area by including a modulated built form, stepping the building in as the height increases. Extensive landscaped areas to side and rear boundaries will further reduce and soften the developments appearance on neighbouring properties and balance the built form.

ZONE OBJECTIVES

Clause 4.6 (4) also requires consideration of the relevant zone objectives. The objectives of the Zone R4 High Density Residential are as follows:

- “ -To provide for the housing needs of the community within a high density residential environment.*
- To provide a variety of housing types within a high density residential environment.*
- To enable other land uses that provide facilities or services to meet the day to day needs of residents.*
- To encourage the supply of housing that meets the needs of the Sutherland Shire’s population, particularly housing for older people and people with a disability.*
- To promote a high standard of urban design and residential amenity in a high quality landscape setting that is compatible with natural features.*
- To minimise the fragmentation of land that would prevent the achievement of high density residential development.”*

In response to the above zone objectives, the proposed development is entirely consistent with the relevant zone objectives in that the residential flat building will provide a range of suitable dwelling types that meet the housing needs





of the community within an appropriate high density residential environment. A high quality landscape scheme which responds to the existing natural features forms part of the proposed development. The development provides a range of housing types in the form of one, two and three bedroom units, and adaptable dwellings. The number of adaptable dwellings proposed provides suitable housing for the elderly and people with a disability and the building clearly promotes a high quality urban outcome with minimal environmental impacts. The proposed scheme is considered to be the most suitable in terms of residential amenity and bulk and scale whilst providing for economic redevelopment of the site.

The building is located in a well-designed landscaped setting using locally endemic species that will complement the buildings and the streetscape, and soften the built form of the development. The variation to the height limit does not detract from the development's consistency with the zone objectives.

SUFFICIENT ENVIRONMENTAL PLANNING GROUNDS

Having regard to Clause 4.6(3)(b) and the need to demonstrate that there are sufficient environmental planning grounds to justify contravening the development standard, as discussed above it is considered that there is an absence of significant impacts of the proposed non-compliance on the amenity of future building occupants, on area character and on neighbouring properties.

On "planning grounds" and in order to satisfy that the proposal meets objective 1(b) of clause 4.6 in that allowing flexibility in the particular circumstances of this development will achieve "a better outcome for and from development", the extent of the height non-compliance largely relates to lift/stair core required for accessibility to the rooftop communal open space. By introducing the lift and stair core, the rooftop communal open space becomes highly accessible to future occupants and amenity of the building becomes greatly improved. The lift/stair core is located centrally in the building and will not be visible from the public domain (streets and proposed pedestrian path). The proposal presents appropriate massing of the allowable building density given the site topography, no impacts to neighbouring properties are likely as a result of the height breach. The additional proposed height will not impede on solar access, views and outlooks, and streetscape bulk in any way. As indicated, the proposal provides for a floor space ratio which complies with the maximum permitted and accordingly, the height breach is not associated with additional density beyond what is expected by the controls.

COMPLIANCE IS UNREASONABLE OR UNNECESSARY

Returning to Clause 4.6(3)(a), in *Wehbe v Pittwater Council* (2007) NSW LEC 827 Preston CJ sets out ways of establishing that compliance with a development standard is unreasonable or unnecessary. It states, inter alia:

"An objection under SEPP 1 may be well founded and be consistent with the aims set out in clause 3 of the Policy in a variety of ways. The most commonly invoked way is to establish that compliance with the development standard is unreasonable or unnecessary because the objectives of the development standard are achieved notwithstanding non-compliance with the standard."

The judgement goes on to state that:

"The rationale is that development standards are not ends in themselves but means of achieving ends. The ends are environmental or planning objectives. Compliance with a development standard is fixed as the usual means by which the relevant environmental or planning objective is able to be achieved. However, if the proposed development proffers an alternative means of achieving the objective strict compliance with the standard would be unnecessary (it is achieved anyway) and unreasonable (no purpose would be served)."

Preston CJ in the judgement then expressed the view that there are 5 different ways in which an objection may be well founded and that approval of the objection may be consistent with the aims of the policy, as follows (with emphasis placed on number 1 for the purposes of this Clause 4.6 variation [our underline]):



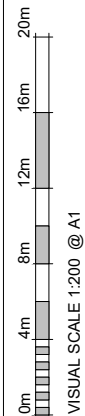


- *The objectives of the standard are achieved notwithstanding non-compliance with the standard;*
- *The underlying objective or purpose of the standard is not relevant to the development and therefore compliance is unnecessary;*
- *The underlying object of purpose would be defeated or thwarted if compliance was required and therefore compliance is unreasonable;*
- *The development standard has been virtually abandoned or destroyed by the Council's own actions in granting consents departing from the standard and hence compliance with the standard is unnecessary and unreasonable;*
- *The zoning of the particular land is unreasonable or inappropriate so that a development standard appropriate for that zoning is also unreasonable and unnecessary as it applies to the land and compliance with the standard that would be unreasonable or unnecessary. That is, the particular parcel of land should not have been included in the particular zone.*

Having regard to all of the above, it is our opinion that compliance with the maximum height development standard is unnecessary in the circumstances of this case as the development meets the objectives of that standard and the zone objectives.

Therefore, insistence upon strict compliance with that standard would be unreasonable. On this basis, the requirements of clause 4.6(3) are satisfied.





SR#	DATE	ISSUE	APPROVAL
1	03.05.2016	A	DA SKETCH/DESIGN
2	01.02.2016	A	DA RESUME/DEVELOPMENT
3	21.08.2016	A	ISSUE FOR CONSULTANTS
4	24.02.2016	B	ISSUE FOR CONSULTANTS
5	15.10.2016	C	ISSUE FOR DA SUBMISSION
6	02.12.2016	D	REVISED FOR DA
7	23.01.2017	E	REVISED FOR DA
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ARCHITECTURAL GENERAL NOTES

A1 The Architect shall be responsible for the following construction and material details and shall be responsible for the Architect before commencement of any work.

A2 The Builders/contractors will be held responsible for any construction details which have not been approved by the Architect.

A3 In the event of encountering any discrepancies on the drawings, specification, or submittal instructions issued, the Builder/contractor shall contact the Architect before proceeding further with any work.

A4 The Architect shall be responsible for the following construction and material details and shall be responsible for the Architect before commencement of any work.

A5 It is the contractor's responsibility to have all Architectural & Structural documentation, including all instructions and drawings issued during the construction, approved by the relevant authorities including the Local Council & the Water Board.

A6 All work may be proceeded with after the Architect and/or Engineer's approval.

A7 All measurements for the fabrication of secondary components such as, windows, doors, internal frames, structural steel components and the like, are to be taken from these documents. Measurements must be taken on site to suit the work as constructed.

A8 All existing structures must be examined for structural adequacy, and if the Contractor's responsibility, to ensure that a certificate of structural adequacy is available prior to the start of any work.

A9 On construction work and compliance with all the relevant codes and standards, this work must be performed by a registered Surveyor.

A10 The Contractor shall be responsible for the following construction and material details and shall be responsible for the Architect before commencement of any work.

A11 All timber work is to comply with the requirements of the Timber Framing Code S.A.A. Codes and Structural Engineers' details and specification.

A12 Copyrights of all documents and designs relating to both Architectural and Structural Engineering, are retained by this office. Written authority is required for any reproduction.

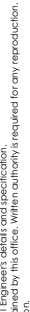
A13 Copying the "hardcopy" material clause of the specification.

A14 The Architect's responsibility to check that all Architectural, Structural and all other job related documents have been received before tendering and/or construction may commence. Should there be any doubt to the availability of the tenderers the Architect should be notified before further detail be needed. The tenderer and/or Contractor should obtain such details before signing of contract documents. Failure to adhere to these conditions will be the tenderer and/or Contractor's responsibility.

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PINNACLE STREET

7.80	0.6 SPACE PER 1 BED
46.80	0.9 SPACE PER 2 BED
7	1.40 SPACE PER 3 BED
62	TOTAL RESIDENT PARKING
14	1 VISITOR SPACE PER 5 UNITS
76	TOTAL OF CAR SPACES REQ.
3	CAR WASH BAY (CWB)
84	TOTAL OF CAR SPACES (INCL CWB)



documentation's have been recieved before tendering and/or construction shall obtain such details before signing of contract documents. Failure to do so shall be considered as a breach of contract.

...without written permission from the
...to suit the work as constructed.

KW	28.09.2016	B
KW	13.10.2016	C
KW	02.12.2016	D



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PO Box 703 burwood 1805 nsw australia
t 02 939 79 001 f 02 939 79 070

PROJECT	CLIENT
	678 Kingston, Miranda, Bty Ltd

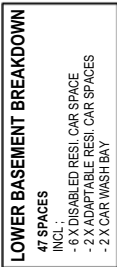
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DATE 23/01/2017

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IMPORTANT NOTE
THESE DRAWINGS HAVE BEEN ISSUED FOR
DEVELOPMENT APPLICATION PURPOSES
ONLY. THEY ARE NOT ISSUED FOR
CONSTRUCTION OR CONSTRUCTION
CERTIFICATE OR FOR THE PURPOSES OF
PRICING BY ANY CONTRACTOR

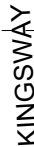


2 --Lower Basement
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PINNACLE STREET

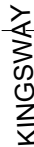
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KINGSWAY



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Level
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PINNACLE STREET

IMPORTANT NOTE
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PROJECT 678 - 682 KINGSWAY & 9 PINNACLE STREET, MIRANDA	CLIENT 678 Kingsway Miranda Pty Ltd	
	DRAWN K/W	JOB NO. 1354/15
TITLE GROUND FLOOR - SITE PLAN & LEVEL 1	ARCHITECT'S APPROVAL C/K	DRAWING NO A003
	DATE 23/01/2017	SCALE @ A1 1:200

DRAWN	DATE	ISSUE	AMENDMENT
KW	03.08.2016	A	DA SKETCH DESIGN
KW	03.08.2016	A	DA DESIGN DEVELOPMENT
KW	31.08.2016	A	ISSUE FOR CONSULTANTS
KW	26.08.2016	B	ISSUE FOR CONSULTANTS
KW	13.10.2016	C	ISSUE FOR DA SUBMISSION
KW	02.12.2016	D	REVISED FOR DA
KW + CK	23.01.2017	E	REVISED FOR DA

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Level 5
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PINNACLE STREET

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BASIC CONSTRUCTION INFORMATION			
* THIS IS THE INFORMATION TO BE COMPLETED FIRST *			
1. PROJECT NAME	2. PROJECT ADDRESS	3. PROJECT PHONE	4. PROJECT FAX
5. PROJECT TYPE	6. PROJECT DESCRIPTION	7. PROJECT LOCATION	8. PROJECT STATUS
9. PROJECT OWNER	10. PROJECT CONTACT	11. PROJECT CONTACT PHONE	12. PROJECT CONTACT FAX
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Architectural floor plan of a building, likely a residential or commercial development, showing a communal open area and various units.

Communal Open Area: 371M². Refer to landscape plans for weather protection.

Units: UNIT 605, UNIT 606, UNIT 607, UNIT 608. Each unit includes a kitchen, living area, and bedrooms.

Dimensions: 4500, 6000, 1500, 9000, 30.48.

Boundaries: BOUNDARY 37.014, BOUNDARY 30.48, BOUNDARY 36.576, BOUNDARY 75.550.

Grid System: 1, 2, 3, 4, 5, 6, 7, 8 (horizontal); A, B, C, D, E, F (vertical).

Other Labels: COMMUNAL OPEN AREA, UNIT 605, UNIT 606, UNIT 607, UNIT 608, KINGSWAY, BOUNDARY 37.014, BOUNDARY 30.48, BOUNDARY 36.576, BOUNDARY 75.550.

Notes: POSSIBLE FUTURE DEVELOPMENT REFER TO SHEETS A022 & A023 FOR DETAIL.

BASIC COMMENTS NOTES			
40 - Please check	41 - Check factory systems	42 - Machine type	43 - Machine size
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hundred sixteenth hand machine. ☐ 40.118 The machine is a hundred seventeenth hand machine. ☐ 40.119 The machine is a hundred eighteenth hand machine. ☐ 40.120 The machine is a hundred nineteenth hand machine. ☐ 40.121 The machine is a hundred twentieth hand machine. ☐ 40.122 The machine is a hundred twenty first hand machine. ☐ 40.123 The machine is a hundred twenty second hand machine. ☐ 40.124 The machine is a hundred twenty third hand machine. ☐ 40.125 The machine is a hundred twenty fourth hand machine. ☐ 40.126 The machine is a hundred twenty fifth hand machine. ☐ 40.127 The machine is a hundred twenty sixth hand machine. ☐ 40.128 The machine is a hundred twenty seventh hand machine. ☐ 40.129 The machine is a hundred twenty eighth hand machine. ☐ 40.130 The machine is a hundred twenty ninth hand machine. ☐ 40.131 The machine is a hundred thirtieth hand machine. ☐ 40.132 The machine is a hundred thirty first hand machine. ☐ 40.133 The machine is a hundred thirty second hand machine. ☐ 40.134 The machine is a hundred thirty third hand machine. ☐ 40.135 The machine is a hundred thirty fourth hand machine. ☐ 40.136 The machine is a hundred thirty fifth hand machine. ☐ 40.137 The machine is a hundred thirty sixth hand machine. ☐ 40.138 The machine is a hundred thirty seventh hand machine. ☐ 40.139 The machine is a hundred thirty eighth hand machine. ☐ 40.140 The machine is a hundred thirty ninth hand machine. ☐ 40.141 The machine is a hundred fortieth hand machine. ☐ 40.142 The machine is a hundred forty first hand machine. ☐ 40.143 The machine is a hundred forty second hand machine. ☐ 40.144 The machine is a hundred forty third hand machine. ☐ 40.145 The machine is a hundred forty fourth hand machine. ☐ 40.146 The machine is a hundred forty fifth hand machine. ☐ 40.147 The machine is a hundred forty sixth hand machine. ☐ 40.148 The machine is a hundred forty seventh hand machine. ☐ 40.149 The machine is a hundred forty eighth hand machine. ☐ 40.150 The machine is a hundred forty ninth hand machine. ☐ 40.151 The machine is a hundred fiftieth hand machine. ☐ 40.152 The machine is a hundred fifty first hand machine. ☐ 40.153 The machine is a hundred fifty second hand machine. ☐ 40.154 The machine is a hundred fifty third hand machine. ☐ 40.155 The machine is a hundred fifty fourth hand machine. ☐ 40.156 The machine is a hundred fifty fifth hand machine. ☐ 40.157 The machine is a hundred fifty sixth hand machine. ☐ 40.158 The machine is a hundred fifty seventh hand machine. ☐ 40.159 The machine is a hundred fifty eighth hand machine. ☐ 40.160 The machine is a hundred fifty ninth hand machine. ☐ 40.161 The machine is a hundred sixtieth hand machine. ☐ 40.162 The machine is a hundred sixty first hand machine. ☐ 40.163 The machine is a hundred sixty second hand machine. ☐ 40.164 The machine is a hundred sixty third hand machine. ☐ 40.165 The machine is a hundred sixty fourth hand machine. ☐ 40.166 The machine is a hundred sixty fifth hand machine. ☐ 40.167 The machine is a hundred sixty sixth hand machine. ☐ 40.168 The machine is a hundred sixty seventh hand machine. 			

Level 7
1 : 200

PINNACLE STREET

Level 6
1 : 200

IMPORTANT NOTE
THESE DRAWINGS HAVE BEEN ISSUED FOR DEVELOPMENT APPLICATION PURPOSES ONLY. THEY ARE NOT ISSUED FOR CONSTRUCTION OR CONSTRUCTION CERTIFICATE OR FOR THE PURPOSES OF PRICING BY ANY CONTRACTOR

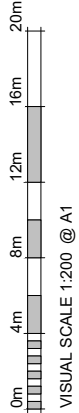
	katris architects pty ltd level 1/3 burwood road, concord nsw 2137 PO Box 703 burwood 1805 nsw australia abn 79 001 639 970		CLIENT 678 - 682 KINGSWAY & 9 PINNACLE STREET, MIRANDA 679 Kingsway Miranda Pty Ltd			p 02 9744 5421 f 02 9747 5046 www.katris.com.au
	PROJECT LEVEL 6 & LEVEL 7		DRAWN K.W. DATE 23/01/2017			

DRAWN	DATE	ISSUE
KW	03.08.2016	A DA SKETCH DESIGN
KW	09.08.2016	A A DA DESIGN DEVELOPMENT
KW	14.08.2016	A ISSUE FOR CONSULTANTS
KW	20.08.2016	B ISSUE FOR CONSULTANTS
KW	13.10.2016	C ISSUE FOR DA SUBMISSION
KW	02.12.2016	D REVISION FOR DA
KW + CK	23.01.2017	E REVISED FOR DA

[illegible]

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Roof Plan
1 : 200





katris architects pty ltd
 level 13-5 burwood road, concord nsw 2137
 PO Box 703 burwood 1805 nsw australia
 abn 79 001 639 970



p 02 97 44 5421
f 02 97 47 5046
www.katris.com.au

PROJECT

678- 682, KINGSWAY & 9 PINNACLE STREET, MIRANDA

CIENT

678 Kingsway Miranda Pty Ltd

DRAWN	KW	CX	ARCHITECTS APPROVAL	JOB No.
DATE	23/01/2017	SCALE @ A1	DRAWING No	1354/15
		@ A3 1:400	A027	ISSUE
				E

TITLE

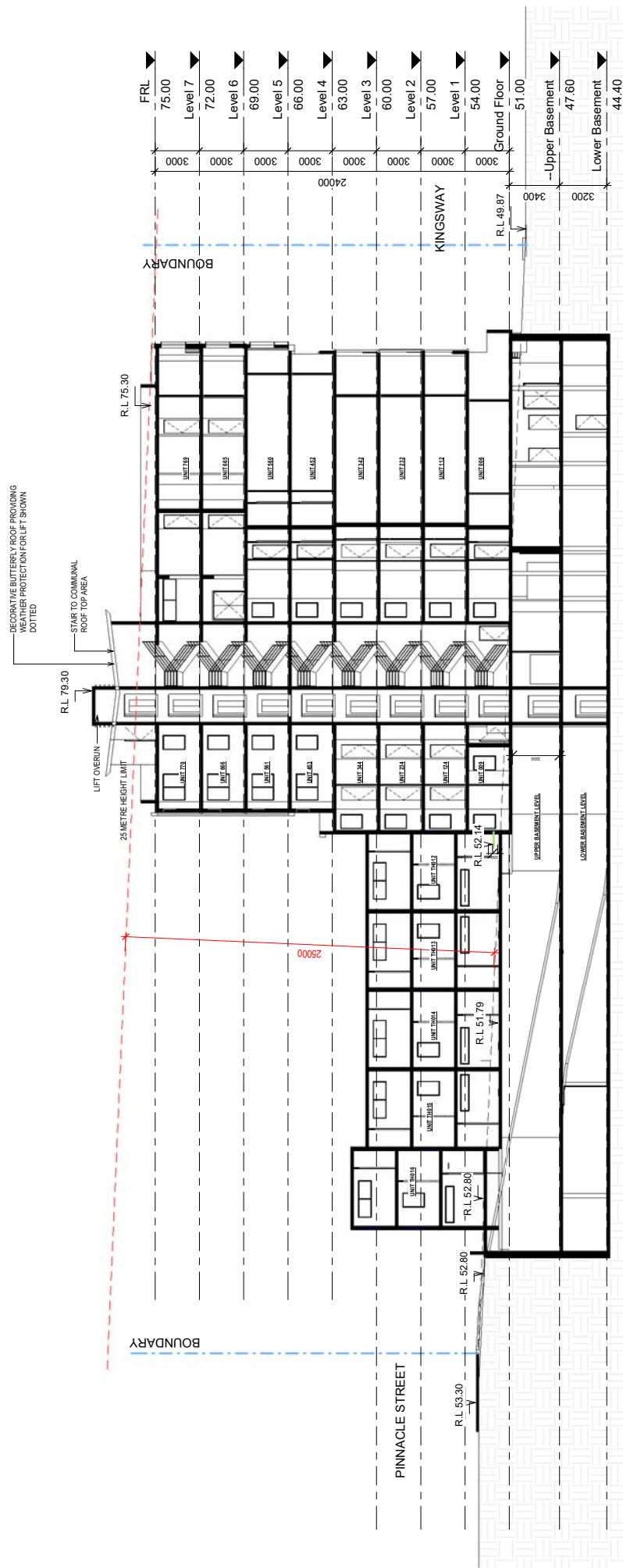
ROOF PLAN

katris architects pty ltd
level 1 3-5 burwood road, concord nsw 2137
PO Box 703 burwood 1805 nsw australia
abn 79 001 639 970

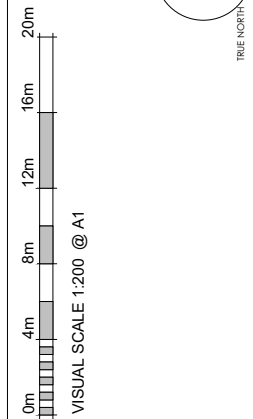
PROJECT	678 - 680 KINGSWAY & 9 PINNACLE STREET MIRANDA
CLIENT	678 Kingsway Miranda Pty Ltd

TITLE ROOF PLAN	DRAWN			ARC
	KW			CK
	DATE			SCA
	23/01/2017			1:1 @A

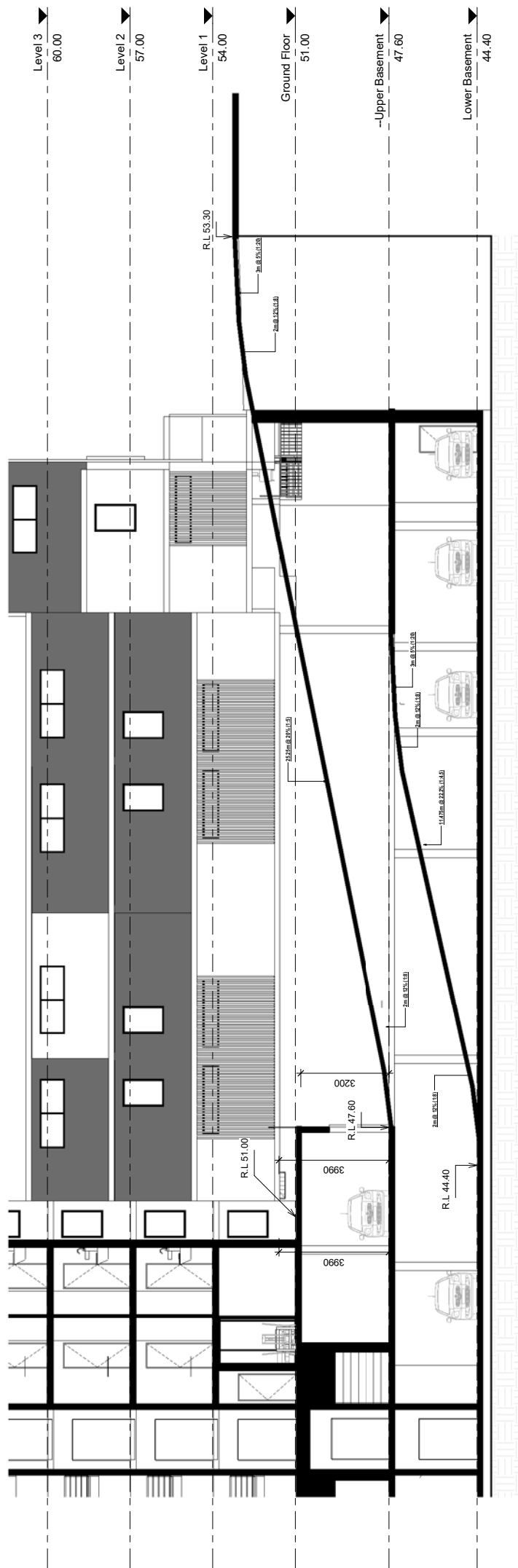




SECTION AA
1:200
1

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 katris architects pty ltd level 1 3-5 burwood road, concord nsw 2137 PO Box 703 burwood 1805 nsw australia abn 97 001 639 970	p 02 9744 5421 f 02 9747 5046 www.katris.com.au		
	PROJECT 678 - 682 KINGSWAY & 9 PINNACLE STREET, MIRANDA		
TITLE SECTION AA	CLIENT 678 Kingsway Miranda Pty Ltd		JOB No. 1354/15
	DRAWN K.W	ARCHITECTS APPROVAL CK	
DATE 23/01/2017		SCALE @ A1 @ A3 14:00	
ISSUE D		ISSUE D	



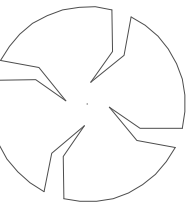
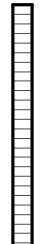
1 Driveway Ramp Section
1 : 100

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CONCEPT STORMWATER MANAGEMENT PLANS

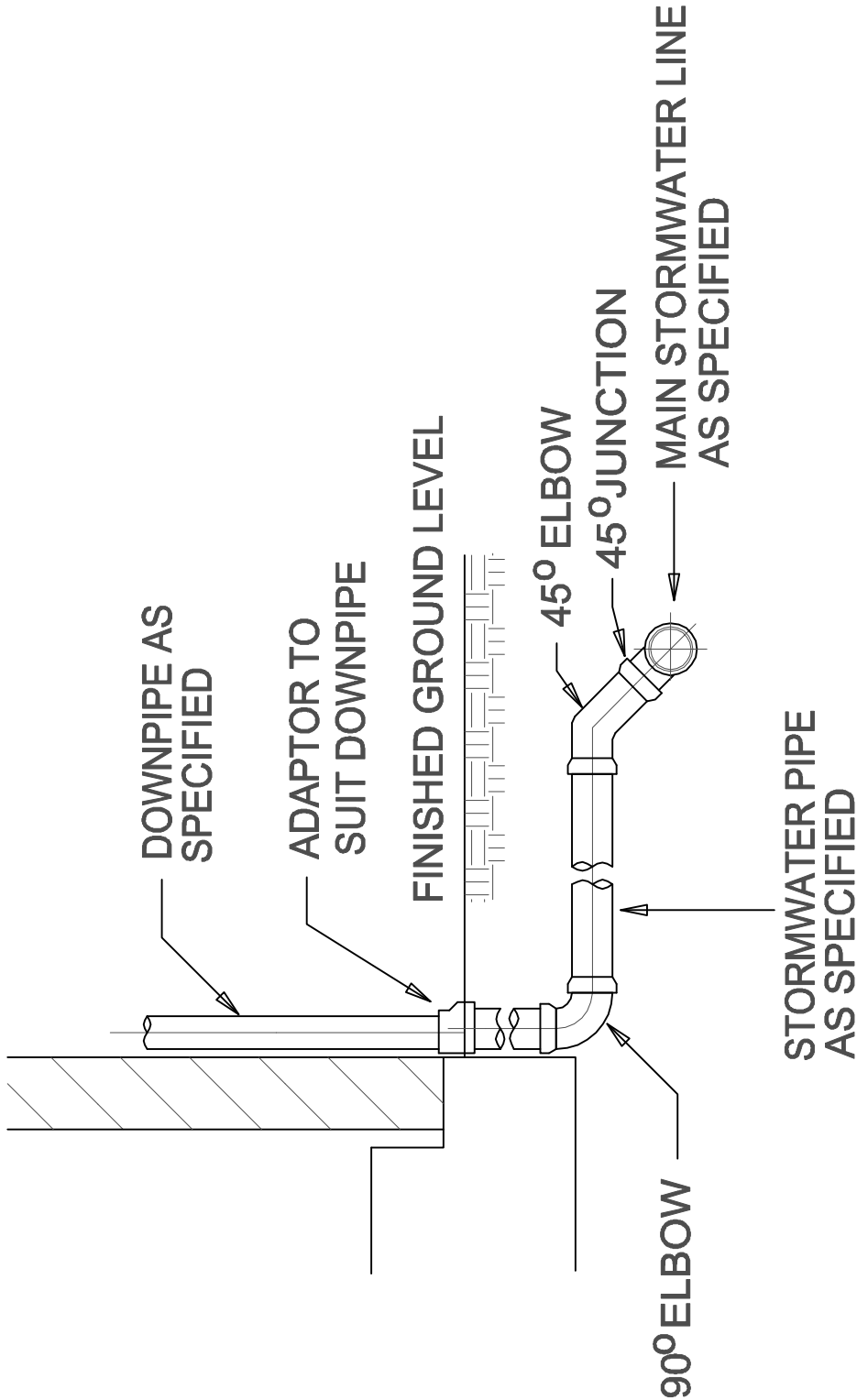
PROPOSED NEW RESIDENTIAL DEVELOPMENT

No.678-682 KINGSWAY & 9 PINNACLE STREET, MIRANDA NSW 2228

LEGEND	
	GRATED INLET PIT
450x450	450mm SQUARE INTERNAL
GRT 75.54	GRATE LEVEL = RL 75.54
IL 75.12	INVERT LEVEL = RL 75.12
	INSPECTION OPENING CAP
	PROPOSED DOWNPIPE 150 DIA MIN UNO
	EXISTING TREE
	GRATED TRENCH DRAIN
	GRATED ROUND OUTLET 100mm DIAMETER
	PROPOSED DOWNPIPE SPREADER
	ROOF DRAINAGE ONLY- 150 DIA PIPE UNO
	STORMWATER DRAINAGE
	PROPOSED VERTICAL RISER 50mm CLASS 12 UNO
	PROPOSED 100 DIA VERTICAL PIPE

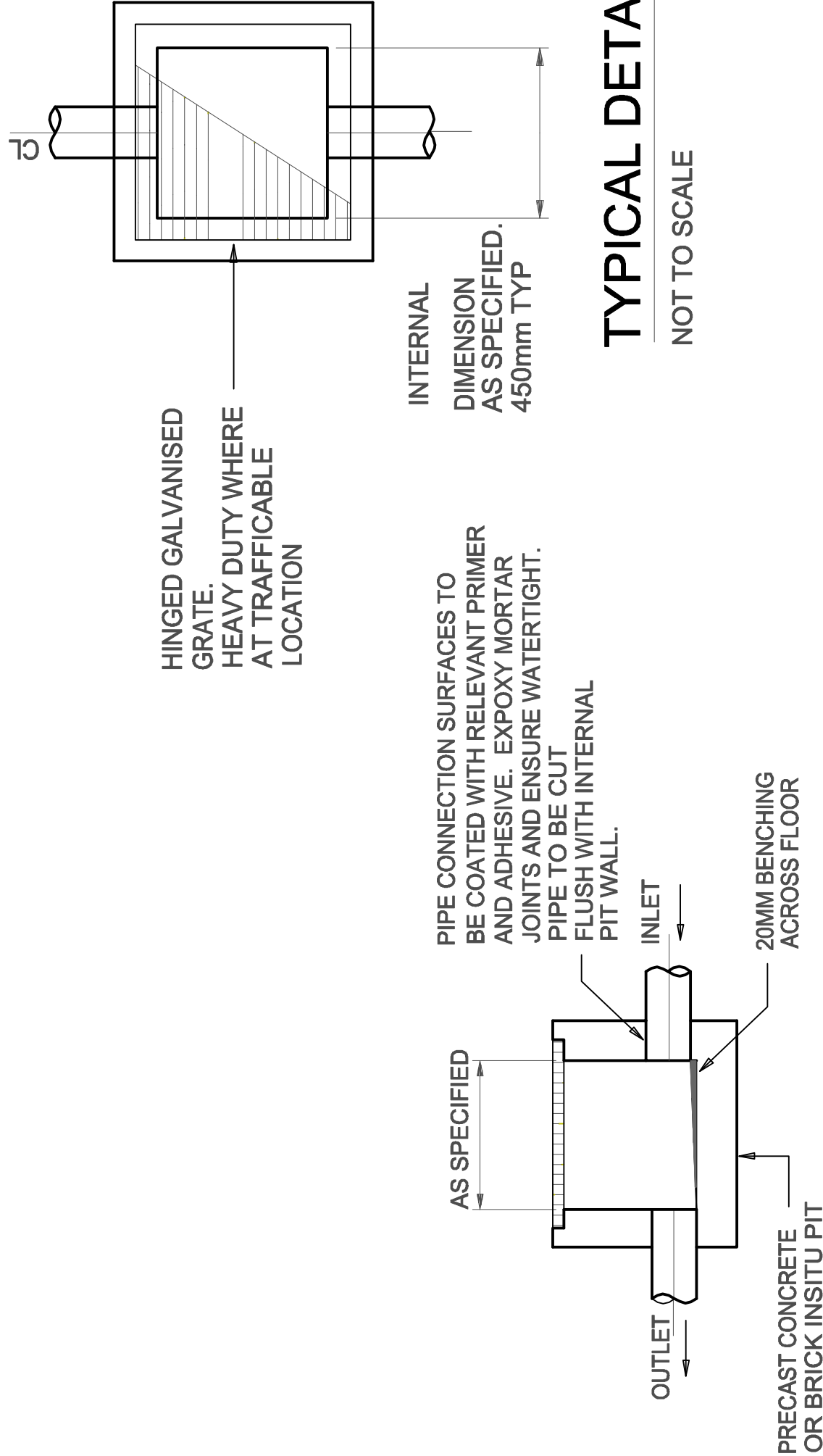
SUTHERLAND SHIRE COUNCIL'S STORMWATER MANAGEMENT REQUIREMENTS.
<u>CODE</u> : SUTHERLAND SHIRE COUNCIL - STORMWATER SPECIFICATION EDITION 1 & 12/04 <u>PROPOSED DEVELOPMENT</u> : PROPOSED NEW RESIDENTIAL DEVELOPMENT <u>SITE AREA</u> = 2844m2 ONSITE STORMWATER DETENTION HAS BEEN DESIGNED AS PART OF COUNCIL'S REQUIREMENTS. DRAINS MODELLING UNDERTAKEN TO SIZE OSD SYSTEM. 100 YEAR POST-DEVELOPMENT DISCHARGE LIMITED TO 5 YEAR PRE-DEVELOPMENT DISCHARGE. OSD VOLUME = 39m3 HOWEVER COUNCIL HAS RECOMMENDED THAT A 20m3 RAINWATER TANK CAN BE DESIGNED TO OFFSET ONSITE DETENTION. REFER SHEET D2 FOR DRAINAGE DESIGN. WATER SENSITIVE URBAN DESIGN REQUIRED(WSD), REFER TO WSUD REPORT & MUSIC MODEL PREPARED BY EZE HYDRAULIC ENGINEERS PTY LTD. REFER SHEET D2 & D6 FOR FURTHER DESIGN. PROPOSED BASEMENT HAS A PUMP OUT TANK. THIS HAS BEEN DESIGNED FOR THE 100 YEAR 2 HOUR STORM AS PER COUNCIL'S REQUIREMENT. BASEMENT PUMP OUT DIRECTED TO OSD TANK/ COUNCIL PIT AS PER COUNCIL'S REQUEST. DESIGN BASED ON COUNCIL STANDARDS, AR & R AND THE RELEVANT AUSTRALIAN STANDARDS.

GENERAL NOTES
1. FINAL LOCATION OF NEW DOWNPIPES TO BE DETERMINED BY BUILDER/ARCHITECT AT TIME OF CONSTRUCTION. 2. THESE DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTS AND OTHER CONSULTANTS DRAWINGS. ANY DISCREPANCIES TO BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH WORK. 3. ALL MATERIALS AND WORKMANSHIP TO BE IN ACCORDANCE WITH AS/NZS 3500.3:2003 STORMWATER DRAINAGE, BCA AND LOCAL COUNCIL POLICY/CONSENT/REQUIREMENTS. 4. ALL DIMENSIONS AND LEVELS TO BE VERIFIED BY BUILDER ON-SITE PRIOR TO COMMENCEMENT OF WORKS. THESE DRAWINGS ARE NOT TO BE SCALED FOR DIMENSIONS NOR TO BE USED FOR SETOUT PURPOSES. 5. ALL SURVEY INFORMATION AND PROPOSED BUILDING AND FINISHED SURFACE LEVELS SHOWN IN THESE DRAWINGS ARE BASED ON LEVELS OBTAINED FROM DRAWINGS BY OTHERS. 6. THESE DRAWINGS DEPICT THE DESIGN OF SURFACE STORMWATER RUNOFF DRAINAGE SYSTEMS ONLY AND DO NOT DEPICT ROOF DRAINAGE OR SUBSOIL DRAINAGE SYSTEMS UNLESS NOTED OTHERWISE. THE DESIGN OF ROOF AND SUBSOIL DRAINAGE SYSTEMS IS THE RESPONSIBILITY OF OTHERS. 7. ALL STORMWATER DRAINAGE PIPES ARE TO BE 100mm DIAMETER uPVC AT MINIMUM 1% GRADE UNLESS NOTED OTHERWISE. 8. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE AND LEVEL ALL EXISTING SERVICES OR OTHER STRUCTURES WHICH MAY AFFECT/BE AFFECTED BY THIS DESIGN PRIOR TO COMMENCEMENT OF WORKS. 9. ALL PITTS WITHIN DRIVEWAYS TO BE 150mm THICK CONCRETE OR EQUAL. 10. THIS PLAN IS THE PROPERTY OF EZE HYDRAULIC ENGINEERS AND MAY NOT BE USED OR REPRODUCED WITHOUT WRITTEN PERMISSION FROM EZE HYDRAULIC ENGINEERS.



TYPICAL DETAIL - DOWNPIPE CONNECTION

NOT TO SCALE



TYPICAL DETAIL - STANDARD PIT

NOT TO SCALE

CONCEPT ONLY
NOT FOR CONSTRUCTION

		ARCHITECT/BUILDER
B	23.01.17	KATRIS ARCHITECTS PTY LTD
A	15.09.16	CLIENT
ISS	DATE	678 KINGSWAY MIRANDA P/L

EZE HYDRAULIC ENGINEERS	
Pty Ltd	ACN 132 548 853
CONSULTING ENGINEERS CIVIL & STORMWATER MANAGEMENT	
Ph: (02) 9706 7767	Mobile: 0405507654
Fax : (02) 9475 4315	Email : info@ezeeng.com.au

DWG TITLE		COVER SHEET & CALCULATIONS	
PROJECT TITLE		PROPOSED NEW RESIDENTIAL DEVELOPMENT	
		No. 678-682 KINGSWAY & 9 PINNACLE, MIRANDA NSW 2228	

DESIGNED BY :		ISSUED BY :	
EZ			
JOB No	DWG No	No IN SET	ISSUE
14034	D1	6	B



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YOU DIG**
www.1100.com.au

B	23.01.17	COUNCIL LETTER	
A	15.09.16	DA ISSUE	
ISS	DATE	AMENDMENT	

ARCHITECT/BUILDER

KATRIS ARCHITECTS PTY LTD

CLIENT

678 KINGSWAY MIRANDA P/L

EZE HYDRAULIC ENGINEERS

Pty Ltd ACN 132 548 853
CONSULTING ENGINEERS
CIVIL & STORMWATER MANAGEMENT

Ph: (02) 9706 7767

Mobile: 0405507654

Ph: (02) 9706 7767
Fax : (02) 9475 4315
Mobile: 0405507654
Email : info@ezeeng.com.au

DWG TITLE STORMWATER MANAGEMENT PLAN

PROJECT TITLE

PROPOSED NEW RESIDENTIAL DEVELOPMENT
No. 678-682 KINGSWAY & 9 PINNACLE, MIRANDA NSW 2228

DESIGNED BY :

NE

JOB No	DWG No
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JOB No	DWG No
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JOB No	DWG No
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ISSUED BY :



**ENGINEERS
AUSTRALIA**
Professional Engineers

EMIE Aust PENG

SET	ISSUE
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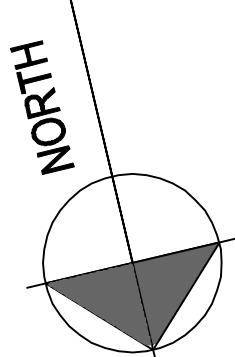
SET	ISSUE
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CONCEPT ONLY
NOT FOR CONSTRUCTION

WARNING
LOCATION AND DE
UNDERGROUND S
BE INVESTIGATE
RELEVANT AUTH
TO COMMENCING

NOTE
THIS DRAWING IS NOT TO BE USED
FOR SETOUT PURPOSES-REFER TO
ARCHITECTURAL DRAWINGS

SCALE 1:125 at A1



NOTE
GUTTERS & DOWNSPUTS
FOR THE 100 YEAR
EVENT.

NOTE
LOCATION OF NEARBY BUILDINGS SHOWN ON THIS MAP IS SUBJECT TO VERIFICATION BY THE BUILDER DURING THE CONSTRUCTION OF THE PROJECT. LOCATIONS NOT SHOWN ON THIS MAP ARE PROVIDED INTENTIONALLY. NO WARRANTIES ARE MAINTAINED.

PROVIDE AUTOMATIC PUMP FOR
PRESSURE SUPPLY TO RE-USE
OUTLETS WITHIN PROPERTY
AS SPECIFIED BY BASIX
CERTIFICATE (BY OTHERS).
INSTALL TO DEPT HEALTH, AS3500
AND COUNCIL REQUIREMENTS.
REFER TYPICAL DETAIL SHEET D5
COLLECT THE 1272m2 OF ROOF AREA.

OVERFLOW TO PIT P12
NOTE : FINAL LOCATION, SIZE
& CONFIGURATION OF TANKS MAY
BE VARIED TO SATISFACTION OF OWNER.

INSTALL 1 X 20000 litre min
BELOW-GROUND RAINWATER
RE-USE CONCRETE TANK.
RAINMASTER CONCRETE OR
APPROVED EQUIVALENT.
INSTALLED TO
MANUFACTURERS SPECIFICATION
CONNECT ROOFWATER ONLY TO
RAINWATER TANKS.
TANK : 4500 L X 3600 W X 1350 D
TOP OF LID : 51.50 nom
INLET(S) INVERT : 50.10
OUTLET INVERT : 50.15
SEALED LIDS AS SHOWN

PIT P12	
900 x 900 SQ	
GRATE : 50.90	
INVERT : 50.40	

PIT P11
600 x 600 SQ
GRATE : 50.85
INVERT : 50.30

PIT P10
600 x 600 SQ
GRATE : 50.80
INVERT : 50.20

PIT P9
600 x 600 SQ
GRATE : 50.80
INVERT : 50.10

PIT P8
600 x 600 SQ
GRATE : 50.80
INVERT : 49.90

PIT P7
600 x 600 SQ
GRATE : 50.75
INVERT : 49.80

EXISTING PIT
900 x 900 SQ
GRATE : 50.20
INVERT : 49.10

PIT P3
600 x 600 SQ

PIT P4
600 x 600 SQ

PIT P5	600 x 600 SQ
--------	--------------

DISCHARGE TO EXISTING COUNCIL PIT
TO COUNCIL REQUIREMENTS.
USE 300 DIA uPVC AT 1% MIN.
OUTLET **IL 49.00** TO BE
CONFIRMED PRIOR TO COMMENCEMENT
OF WORKS.

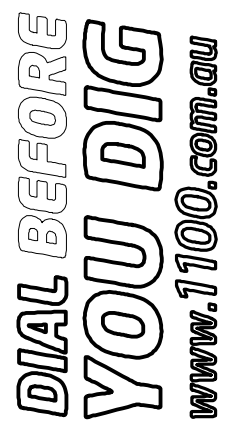
NOTE
THIS DRAWING IS TO BE READ
IN CONJUNCTION WITH
ARCHITECTURAL DRAWINGS :
KATRIS ARCHITECTS PTY LTD
JOB NO.1354
DATED JANUARY 2017

DWG TITLE **BASEMENT B1- DRAINAGE DESIGN**

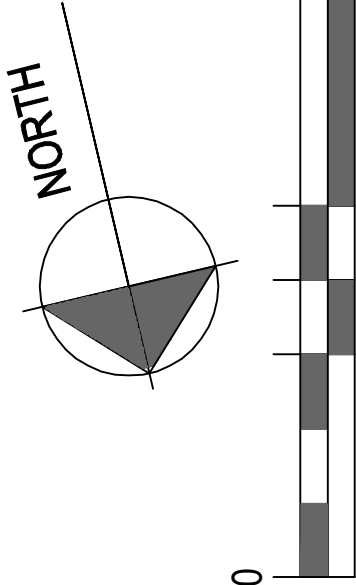
PROJECT TITLE **PROPOSED NEW RESIDENTIAL DEVELOPMENT
No. 678-682 KINGSWAY & 9 PINNACLE, MIRANDA NSW 2228**

DESIGNED BY : EZ	ISSUED BY : 		
		BE MIE AUST PENG	
JOB No 14034	DWG No D3	No IN SET 6	ISSUE B

LOCATION AND DEPTH OF ALL UNDERGROUND SERVICES TO BE INVESTIGATED WITH THE RELEVANT AUTHORITIES PRIOR TO COMMENCING WORKS



CONCEPT ONLY
NOT FOR CONSTRUCTION



SCALE 1:125 at A1

BASEMENT 1 - DRAINAGE DESIGN

DWG TITLE

BASEMENT B1- DRAINAGE DESIGN

PROJECT TITLE

PROPOSED NEW RESIDENTIAL DEVELOPMENT
No. 678-682 KINGSWAY & 9 PINNACLE, MIRANDA NSW 2228

CONSULTING ENGINEERS
CIVIL & STORMWATER MANAGEMENT

Ph: (02) 9706 7767
Fax : (02) 9475 4315
Mobile: 0405507654
Email : info@ezeeng.com.au

ARCHITECT/BUILDER

KATRIS ARCHITECTS PTY LTD

CLIENT

678 KINGSWAY MIRANDA P/L

AMENDMENT

AMENDMENT

AMENDMENT

THIS DRAWING IS TO BE READ
IN CONJUNCTION WITH
ARCHITECTURAL DRAWINGS :
KATRIS ARCHITECTS PTY LTD
JOB NO.1354
DATED JANUARY 2017

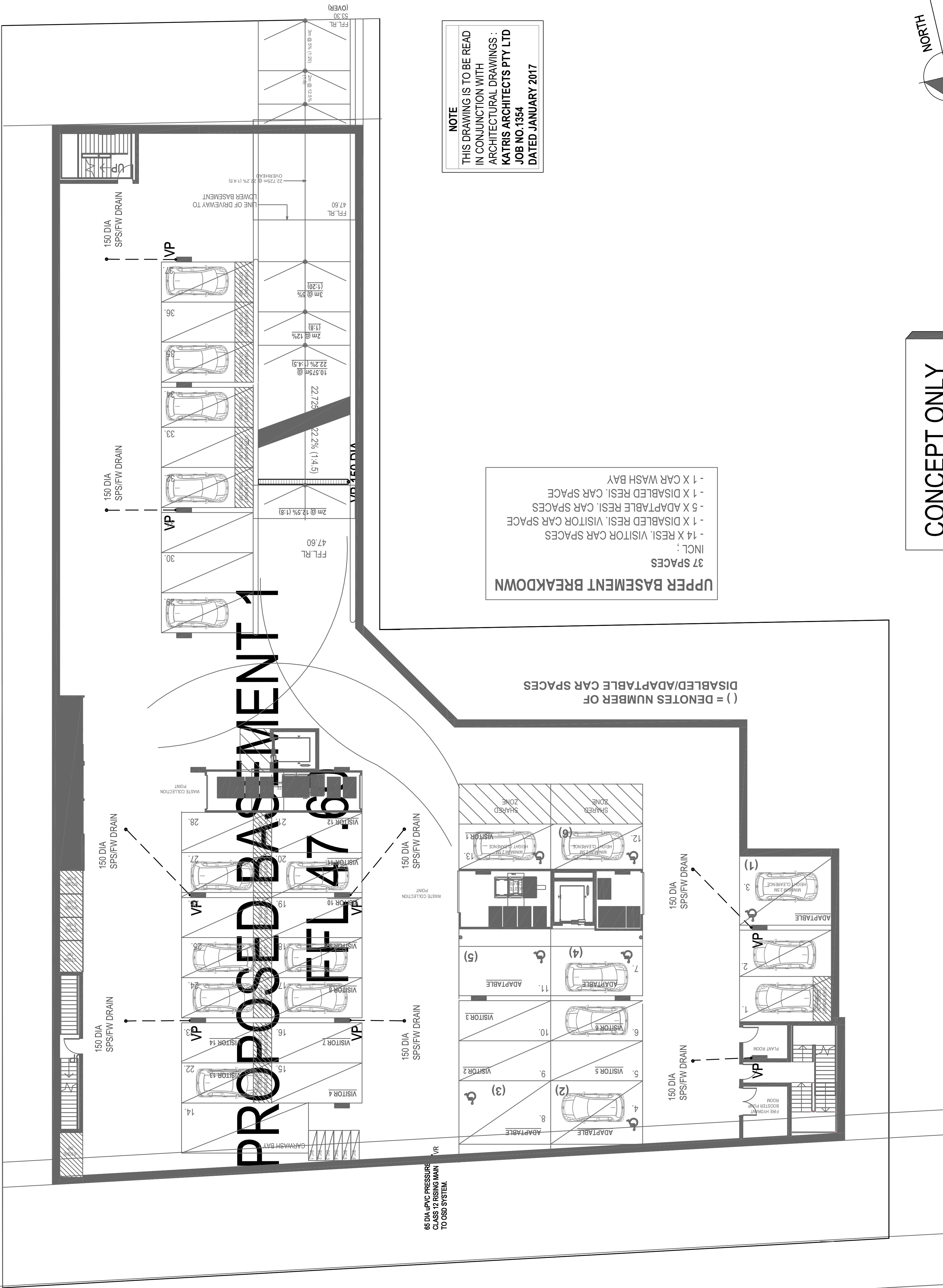
KINGSWAY

THIS DRAWING IS TO BE READ
IN CONJUNCTION WITH
ARCHITECTURAL DRAWINGS :
KATRIS ARCHITECTS PTY LTD
JOB NO.1354
DATED JANUARY 2017

UPPER BASEMENT BREAKDOWN

37 SPACES
INCL :
- 14 X RESI. VISITOR CAR SPACES
- 1 X DISABLED RESI. VISITOR CAR SPACE
- 5 X ADAPTABLE RESI. CAR SPACES
- 1 X DISABLED RESI. CAR SPACE
- 1 X CAR WASH BAY

() = DENOTES NUMBER OF DISABLED/ADAPTABLE CAR SPACES



BASEMENT PUMP-OUT CALCULATIONS

BASEMENT DESIGNED TO COLLECT DRIVEWAY & SUB SOIL RUNOFF.
DRIVEWAY RAMP AREA= 180m²
UNCOVERED DRIVEWAY AREA= 180m²
COVERED DRIVEWAY AREA= 15m²

DESIGN CRITERIA:

PROVIDE WET WELL OF MINIMUM VOLUME EQUAL TO THE
100 YEAR 2 HOUR STORM VOLUMETRIC RUNOFF AS PER COUNCIL'S
CODE TO PROVIDE BACKUP STORAGE DURING POWER BLACKOUTS.

RATIONAL METHOD

A = 180 m² (UNCOVERED AREA ONLY)

STORM DURATION = 2 hours

f = 100%

C100 = 1.00

100 l 120= 61.1mm/hr

Q100, 120min = CIA/360 = 0.00305m³/s = 3.05 l/s

TWO HOUR RUNOFF = 3.05 x 60 x 60 x 2 = 22.00m³

ADOPT PUMP DISCHARGE RATE = 5 MINUTE, 100 YEAR STORM RUNOFF
= 0.00278 x 1 x 180 x 288.5= 13.44 l/s

PROPOSED RISING MAIN PIPE DIAMETER

= 50mm uPVC PRESSURE CLASS 12

HEAD LOSS

STATIC = 8.7 m

PIPE FRICTION = 0.4 m

FITTINGS = 0.4 m

TOTAL = 8.60m

PUMP DUTY : 1.50 l/s AT 9.50m HEAD

PUMP TYPE : SUBMERSIBLE EQUAL TO ECODRENO DRE 100
0.88 kW, G50V, OR EQUIVALENT

PUMP CONTROL : AUTOMATIC WITH FLOAT SWITCHES, TWO (2) x
ALTERNATING PUMPS, DUAL PUMP AT HIGH
WATER LEVEL, CONTROL PANEL WITH APLM.

STORMWATER PUMP-OUT SYSTEM

DIRECT DRIVEWAY RAMP AND BASEMENT

SUB-SOIL DRAINAGE TO PUMP-OUT SYSTEM.

DRIVEWAY RAMP = 180m² APPROX

PUMP WET WELL = 100 YEAR 2 HOUR BACK-UP

STORAGE = 22.0 m³ MIN

TANK DIMENSIONS = 6.0m x 3.50m x 1.50m deep norm

REFER TYPICAL DETAIL SHEET D6

WARNING

LOCATION AND DEPTH OF ALL
UNDERGROUND SERVICES TO
BE INVESTIGATED WITH THE
RELEVANT AUTHORITIES PRIOR
TO COMMENCING WORKS.



B	23.01.17	COUNCIL LETTER	
A	15.09.16	DA ISSUE	
ISS	DATE	AMENDMENT	

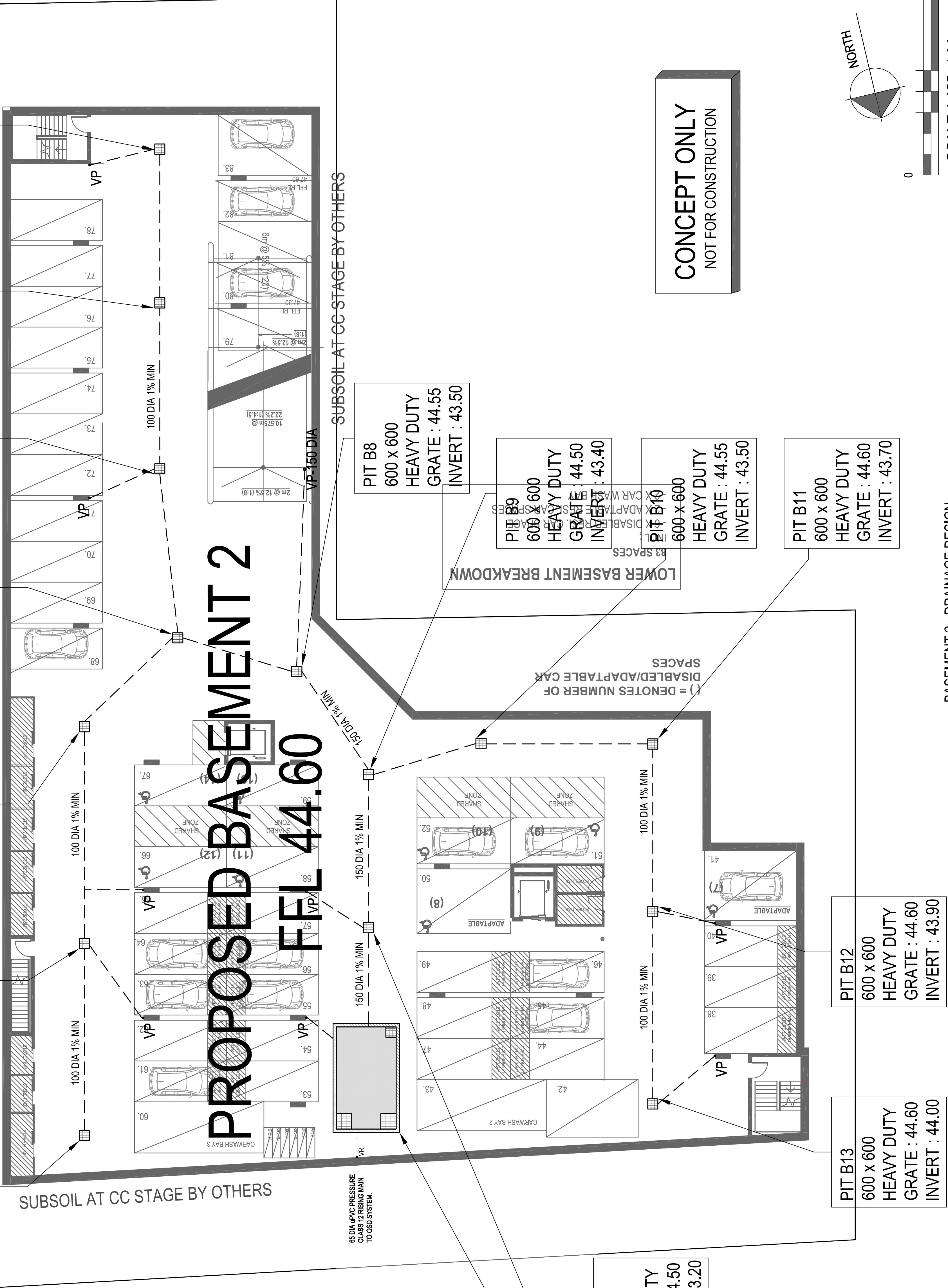
ARCHITECT/BUILDER		KATRIS ARCHITECTS PTY LTD	
CLIENT		678 KINGSWAY MIRANDA P/L	

EZE HYDRAULIC ENGINEERS	
CONSULTING ENGINEERS	
CIVIL & STORMWATER MANAGEMENT	
Pty Ltd	ACN 132 548 853
Ph: (02) 9706 7767	Mobile: 0405507654
Fax : (02) 9475 4315	Email : info@ezeeng.com.au

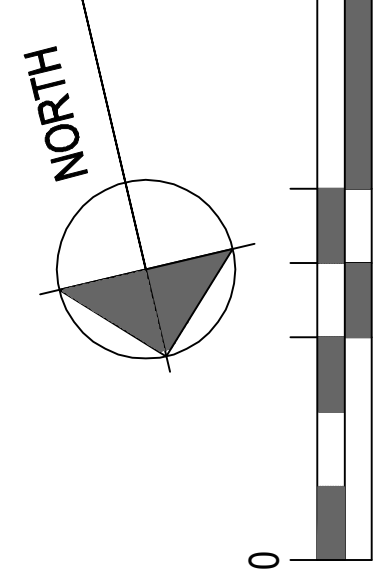
DWG TITLE		BASEMENT 2- DRAINAGE DESIGN	
PROJECT TITLE		PROPOSED NEW RESIDENTIAL DEVELOPMENT	
		No. 678-682 KINGSWAY & 9 PINNACLE, MIRANDA NSW 2228	

DESIGNED BY :		ISSUED BY :	
EZ		BE MIE AUST PENG	
JOB No	DWG No	No IN SET	ISSUE
14034	D4	6	B

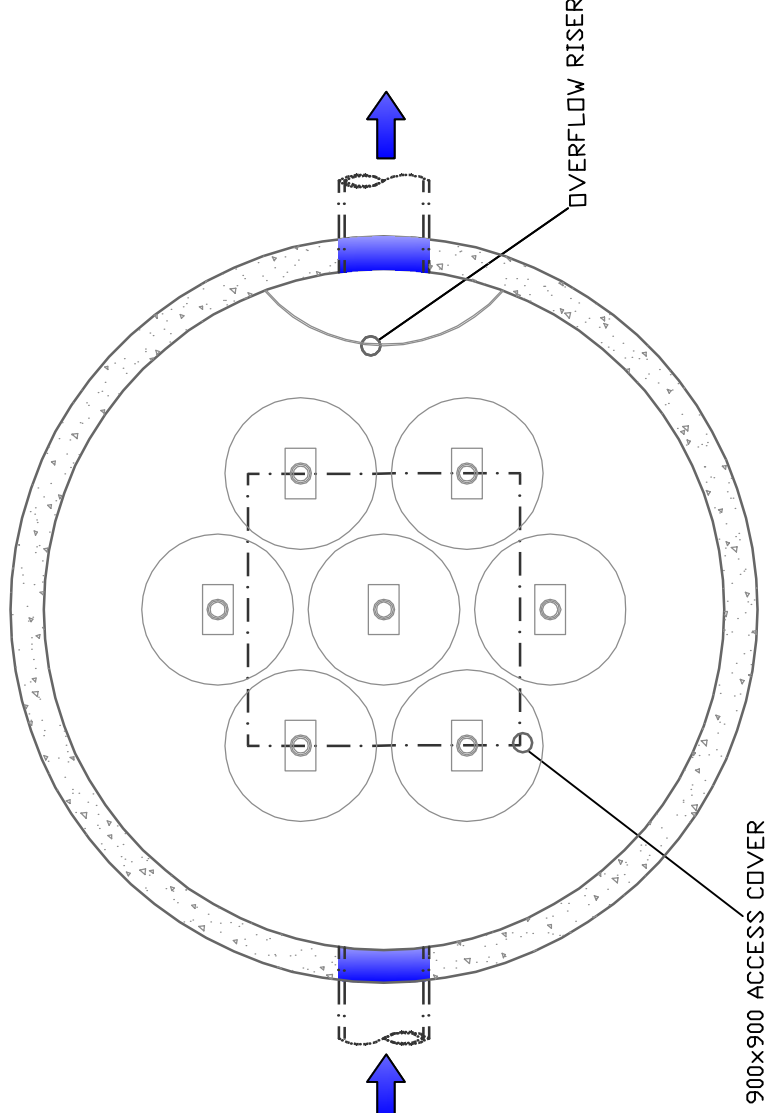
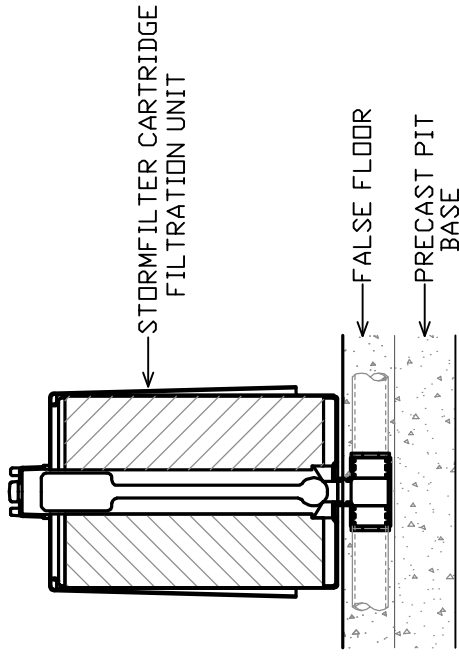
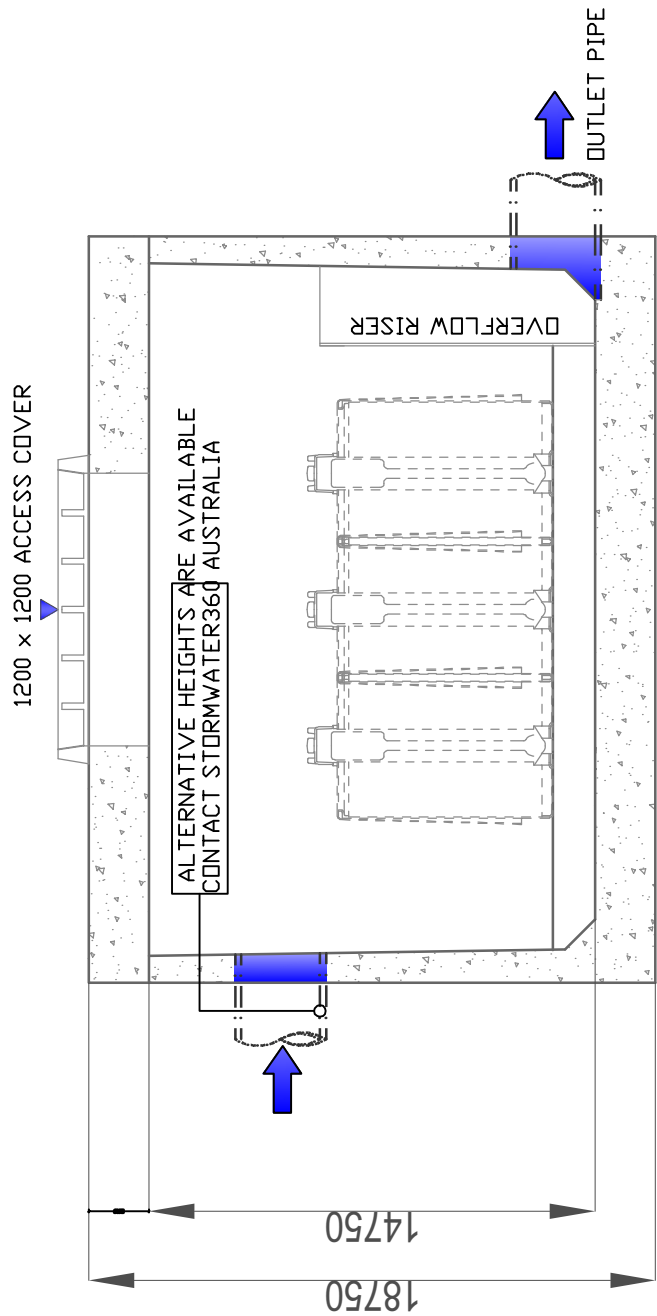
PIT B1	PIT B2	PIT B3	PIT B4	PIT B5	PIT B6	PIT B7
600 x 600 HEAVY DUTY	600 x 600 HEAVY DUTY	600 x 600 HEAVY DUTY	600 x 600 HEAVY DUTY	600 x 600 HEAVY DUTY	600 x 600 HEAVY DUTY	600 x 600 HEAVY DUTY
GRATE : 44.60	GRATE : 44.60	GRATE : 44.60	GRATE : 44.55	GRATE : 44.60	GRATE : 44.60	GRATE : 44.60
INVERT : 44.00	INVERT : 43.90	INVERT : 43.80	INVERT : 43.60	INVERT : 43.80	INVERT : 43.90	INVERT : 44.00



CONCEPT ONLY
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BASEMENT 2 - DRAINAGE DESIGN
SCALE 1:125 AT A1



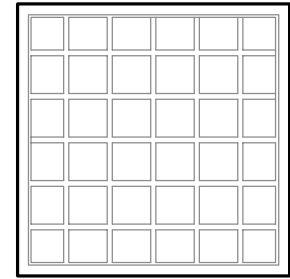
900 x 900 ACCESS COVER

RAINWATER RE-USE AS
SPECIFIED BY BASIX
CERTIFICATE (BY OTHERS)
TO OUTDOOR TAPS AND/OR
TOILETS AND/OR
WASHING MACHINE

RE-USE SYSTEM CONTROL BOX
MOUNTED TO DWELLING WALL.
PROVIDE SYDNEY WATER APPROVED
MAINS WATER DIVERTOR
EXAMPLES :RAINMASTER
(www.rainmaster.com.au)

100mm DIA 1% MIN
ROOFWATER INLET(S)

150 mm DIA uPVC 1% MIN
OVERFLOW TO PIT P12 AS SHOWN



1 x 20000 litre min BELOW GROUND
RAINWATER TANK INSTALLED
TO MANUFACTURERS SPECIFICATIONS.
TANK DIMENSIONS AS SHOWN ON SHEET
D2- FINAL DETAILS AT CC STAGE.

TYPICAL DETAIL - RAINWATER RE-USE TANK

NOT TO SCALE

RAINWATER RE-USE SYSTEM NOTES

- TOWNWATER CONNECTION TO RAINWATER TANK TO BE TO THE SATISFACTION OF SYDNEY WATER. THIS MAY REQUIRE PROVISION OF:
 - PERMANENT AIR GAP.
 - A BACKFLOW PREVENTION DEVICE.
 - NO DIRECT CONNECTION BETWEEN TOWN WATER SUPPLY AND THE RAIN WATER SUPPLY.
 - AN APPROVED STOP VALVE AND/OR PRESSURE LIMITING VALVE AT THE RAINWATER TANK.
- PROVIDE AT LEAST ONE (1) EXTERNAL HOSE COCK ON THE TOWN WATER SUPPLY FOR FIRE FIGHTING.
- PROVIDE APPROPRIATE FLOAT VALVES AND/OR SOLENOID VALVES
- ALL PLUMBING WORKS ARE TO BE CARRIED OUT BY LICENSED PLUMBERS IN ACCORDANCE WITH AS3500.1 NATIONAL PLUMBING AND DRAINAGE CODE.
- PRESSURE PUMP ELECTRICAL CONNECTION TO BE CARRIED OUT BY LICENSED ELECTRICIAN.
- ONLY ROOF RUN-OFF IS TO BE DIRECTED TO THE RAINWATER TANK. SURFACE WATER INLETS ARE NOT TO BE CONNECTED.
- PIPE MATERIALS FOR RAINWATER SUPPLY PLUMBING ARE TO BE APPROVED MATERIALS TO AS 3500 PART 1 SECTION 2 AND TO BE CLEARLY AND PERMANENTLY IDENTIFIED "RAINWATER". THIS MAY BE ACHIEVED FOR BELOW GROUND PIPES USING IDENTIFICATION TAPE (MADE IN ACCORDANCE WITH AS 2648) OR FOR ABOVE GROUND PIPES BY USING ADHESIVE PIPE MARKERS (MADE IN ACCORDANCE WITH AS1346).
- EVERY RAINWATER SUPPLY OUTLET POINT AND THE RAINWATER TANK ARE TO BE LABELLED "RAINWATER" ON A METALLIC SIGN IN ACCORDANCE WITH AS 1319.
- ALL INLETS AND OUTLETS TO THE RAINWATER TANK ARE TO HAVE SUITABLE MEASURES PROVIDED TO PREVENT MOSQUITO AND VERMIN ENTRY.
- SYSTEM TO COMPLY WITH SYDNEY WATER REQUIREMENTS AND ANY CONDITIONS OF LOCAL COUNCIL DEVELOPMENT CONSENT.

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ISS	DATE	AMENDMENT
B	23.01.17	COUNCIL LETTER
A	15.09.16	DA ISSUE

ARCHITECT/BUILDER	KATRIS ARCHITECTS PTY LTD
CLIENT	678 KINGSWAY MIRANDA P/L

EZE HYDRAULIC ENGINEERS

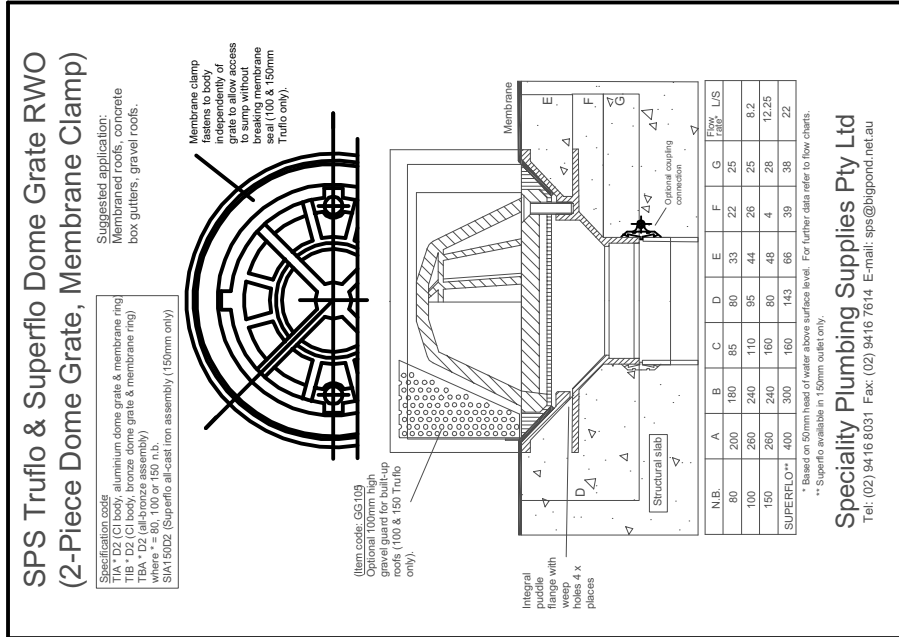
Pty Ltd ACN 132 548 853
CONSULTING ENGINEERS
CIVIL & STORMWATER MANAGEMENT

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DWG TITLE PROPOSED RAINWATER TANK DETAILS

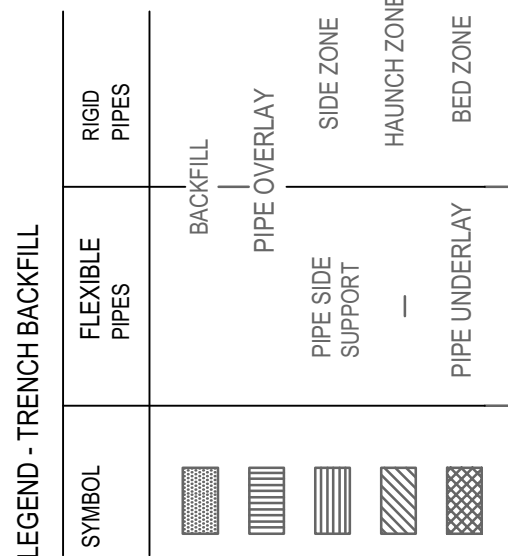
PROJECT TITLE
PROPOSED NEW RESIDENTIAL DEVELOPMENT
No. 678-682 KINGSWAY & 9 PINNACLE, MIRANDA NSW 2228

DESIGNED BY :	EZ	ISSUED BY :	 BE MIE AUST PENG
JOB No	DWG No	No IN SET	ISSUE
14034	D5	6	B



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NTS



(*) INCLUDES OVERLAY ABOVE THE TOP OF THE PIPE OF NOT LESS THAN 50mm THICK
(**) BELOW THE UNDERSIDE OF THE PAVEMENT
(#) SUBJECT TO COMPLIANCE WITH AS1762, AS2033, AS/NZS 2566.1, AS3725 OR AS 4060



DWG TITLE

BASEMENT TANK & TYPICAL DETAILS

PROJECT TITLE

PROPOSED NEW RESIDENTIAL DEVELOPMENT
No. 678-682 KINGSWAY & 9 PINNACLE, MIRANDA NSW 2228

DESIGNED BY : EZ		ISSUED BY : 678-682 Kingsway & 9 Pinnacle, Miranda NSW 2228  BE MIE AUST PENG	
JOB No 14034	DWG No D6	No in SET 6	ISSUE B

CONCEPT SOIL & WATER MANAGEMENT PLAN

PROPOSED NEW RESIDENTIAL DEVELOPMENT

No.678-682 KINGSWAY & 9 PINNACLE STREET, MIRANDA NSW 2228

GENERAL NOTES

1. THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN IN THIS PLAN ARE CONCEPT MEASURES ONLY AND IT IS THE RESPONSIBILITY OF THE SITE SUPERINTENDENT TO ENSURE THAT ALL CONSTRUCTION WORKS PROCEED IN ACCORDANCE WITH THE RELEVANT CODES INCLUDING "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION, VOLUME 1" (THE BLUE BOOK , LANDCOM, 2004) AND THE LOCAL COUNCIL'S EROSION CONTROL POLICY AND THE DEVELOPMENT CONSENT IRRESPECTIVE OF THE MEASURES SHOWN IN THIS PLAN.
2. ALL SUBCONTRACTORS WILL BE INFORMED OF THEIR RESPONSIBILITIES IN REDUCING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSLOPE AREAS.
3. THIS SOIL AND WATER MANAGEMENT PLAN IS TO BE READ IN CONJUNCTION WITH OTHER ENGINEERING PLANS RELATING TO THIS DEVELOPMENT.

LAND DISTURBANCE NOTES

1. DISTURBANCE TO BE LIMITED TO 2 METRES MINIMUM AND 5 METRES MAXIMUM FROM ESSENTIAL WORKS.
2. ACCESS TO THE SITE TO BE LIMITED TO A SINGLE LOCATION WHICH IS CLEARLY MARKED AND FENCED AS REQUIRED.
3. ENTRY TO LAND NOT AFFECTED BY ESSENTIAL WORKS TO NOT BE PERMITTED AND BE SUITABLY PROTECTED BY BARRIER FENCING AS REQUIRED.
4. WORKS ARE TO GENERALLY PROCEED IN THE FOLLOWING SEQUENCE:
 - A. INSTALL ALL BARRIER AND SEDIMENT FENCING WHERE SHOWN ON THE PLAN.
 - B. CONSTRUCT THE STABILISED SITE ACCESS.
 - C. CONSTRUCT DIVERSION DRAINS AS REQUIRED.
 - D. INSTALL MESH AND GRAVEL INLETS FOR ANY ADJACENT KERN INLETS.
 - E. CLEAR SITE AND STRIP AND STOCKPILE TOPSOIL IN LOCATIONS SHOWN ON PLAN.
 - F. UNDERTAKE ALL ESSENTIAL CONSTRUCTION WORKS ENSURING THAT ROOF AND/OR PAVED AREA STORMWATER SYSTEMS ARE CONNECTED TO PERMANENT DRAINAGE AS SOON AS POSSIBLE.
 - G. GRADE LOT AREAS TO FINAL GRADES AND APPLY PERMANENT STABILISATION (LANDSCAPING) WITHIN 20 DAYS OF COMPLETION OF CONSTRUCTION WORKS.
 - H. REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER THE PERMANENT LANDSCAPING HAS BEEN COMPLETED.
 - I. REVIEW, REPAIR, UPGRADE OR ADD EROSION CONTROL MEASURES WEEKLY AND AFTER EVERY STORM EVENT.
5. ON COMPLETION OF MAJOR WORKS LEAVE DISTURBED AREAS WITH A SCARIFIED SURFACE TO ENCOURAGE WATER INFILTRATION AND ASSIST WITH KEYING TOPSOIL LATER.

INSPECTION AND MAINTENANCE NOTES

1. SITE SUPERINTENDENT TO INSPECT SITE WEEKLY AND AFTER EVERY STORM EVENT FOR:
 - i. EROSION CONTROL MEASURES IN WORKING ORDER.
 - ii. ASSESS AND REMOVE SEDIMENT ACCUMULATION.
 - iii. DISTURBED/REHABILITATED AREAS HAVE ADEQUATE GROUND COVER.
 - iv. ASSESS EFFECTIVENESS AND INSTALL ADDITIONAL EROSION/SEDIMENT CONTROL MEASURES AS REQUIRED.

SEDIMENT CONTROL NOTES

1. INSTALL SEDIMENT FENCES AS SHOWN ON PLAN AND/OR WHERE REQUIRED AS DETERMINED BY SITE SUPERINTENDENT.
2. SEDIMENT FENCES TO HAVE MAXIMUM CATCHMENT AREA OF 900 SQUARE METRES AND MINIMUM STORAGE DEPTH OF 600mm.
3. DO NOT PLACE STOCKPILES OR DISTURB LAND WITHIN 5 METRES OF AREAS SUBJECT TO HIGH VELOCITY CONCENTRATED OVERLAND FLOW.
4. EARTH BATTERS TO HAVE MINIMUM PRACTICABLE GRADIENT.

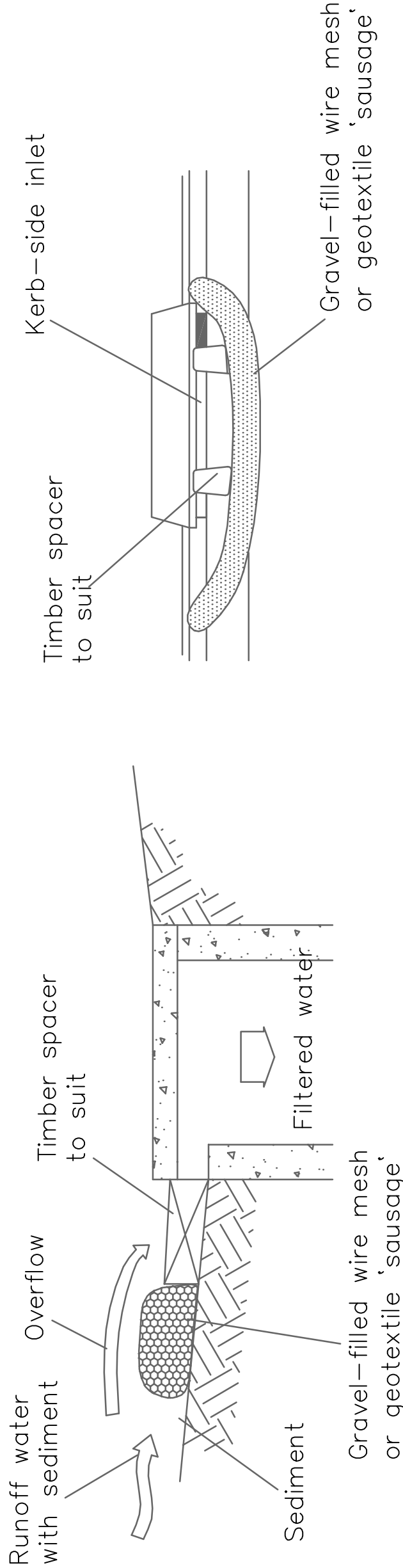
REHABILITATION NOTES

1. STOCKPILES TO HAVE MINIMUM GROUND COVER OF 60% WITHIN 10 WORKING DAYS OF PLACEMENT.
2. ALL DISTURBED LAND TO HAVE MINIMUM GROUND COVER OF 50% WITHIN 20 WORKING DAYS OF EXPOSURE.
3. FOR DISTURBED LAND SUBJECT TO SHEET FLOW USE TEMPORARY GROUND COVER SPECIES SUCH AS JAPANESE MILLET AND OATS AT 20 kg/ha.
4. EARTH BATTERS WILL BE CONSTRUCTED WITH AS LOW A GRADIENT AS PRACTICABLE BUT NO STEEPER, UNLESS OTHERWISE NOTED, THAN:
 - A. 2(H) : 1(V) WHERE SLOPE LENGTH LESS THAN 12 m.
 - B. 2.5(H) : 1(V) WHERE SLOPE LENGTH BETWEEN 12 AND 16 m.
 - C. 3(H) : 1(V) WHERE SLOPE LENGTH BETWEEN 16 AND 20 m.
 - D. 4(H) : 1 (V) WHERE SLOPE LENGTH GREATER THAN 20m.
5. ALL WATERWAYS, DRAINS, SPILLWAYS AND OUTLETS TO BE CONSTRUCTED TO BE STABLE UP TO 20 YEAR ARI EVENT.
6. REVEGETATION SHOULD BE AIMED AT ESTABLISHING NATURAL SPECIES. NATURAL SOIL SURFACES SHOULD BE REPLACED AND NON-PERSISTANT ANNUAL COVER CROPS SHOULD BE USED.

WASTE CONTROL NOTES

1. PROVIDE WATERTIGHT CHEMICAL RESISTANT RECEPTACLES FOR LIQUID WASTE DISPOSAL SUCH AS CONCRETE AND MORTAR SLURRIES, ACIDS AND PAINTS. ALSO PROVIDE GENERAL WASTE RECEPTACLES.
2. WASTE REMOVAL SERVICES TO BE PROVIDED AT LEAST WEEKLY.
3. ALL WASTE TO BE PLACED WITHIN CONTAINMENT BUNDS OR FENCING TO PREVENT POLLUTION RUNOFF.
4. PROVIDE VEHICLE WASHDOWN AND MAINTENANCE AREA CONTAINED WITHIN SUITABLE BUNDS/FENCING.
5. ALL SITE STAFF AND SUB-CONTRACTORS ARE TO BE INFORMED OF THEIR OBLIGATION TO USE WASTE CONTROL FACILITIES.

PLACE GRAVEL SAUSAGE AROUND THE NEAREST DOWNSTREAM COUNCIL STORMWATER PIT IN KINGSWAY.



GRAVEL AND MESH INLET FILTER

(SOURCE: "SOILS AND CONSTRUCTION", LANDCOM, 2004)

CONCEPT ONLY
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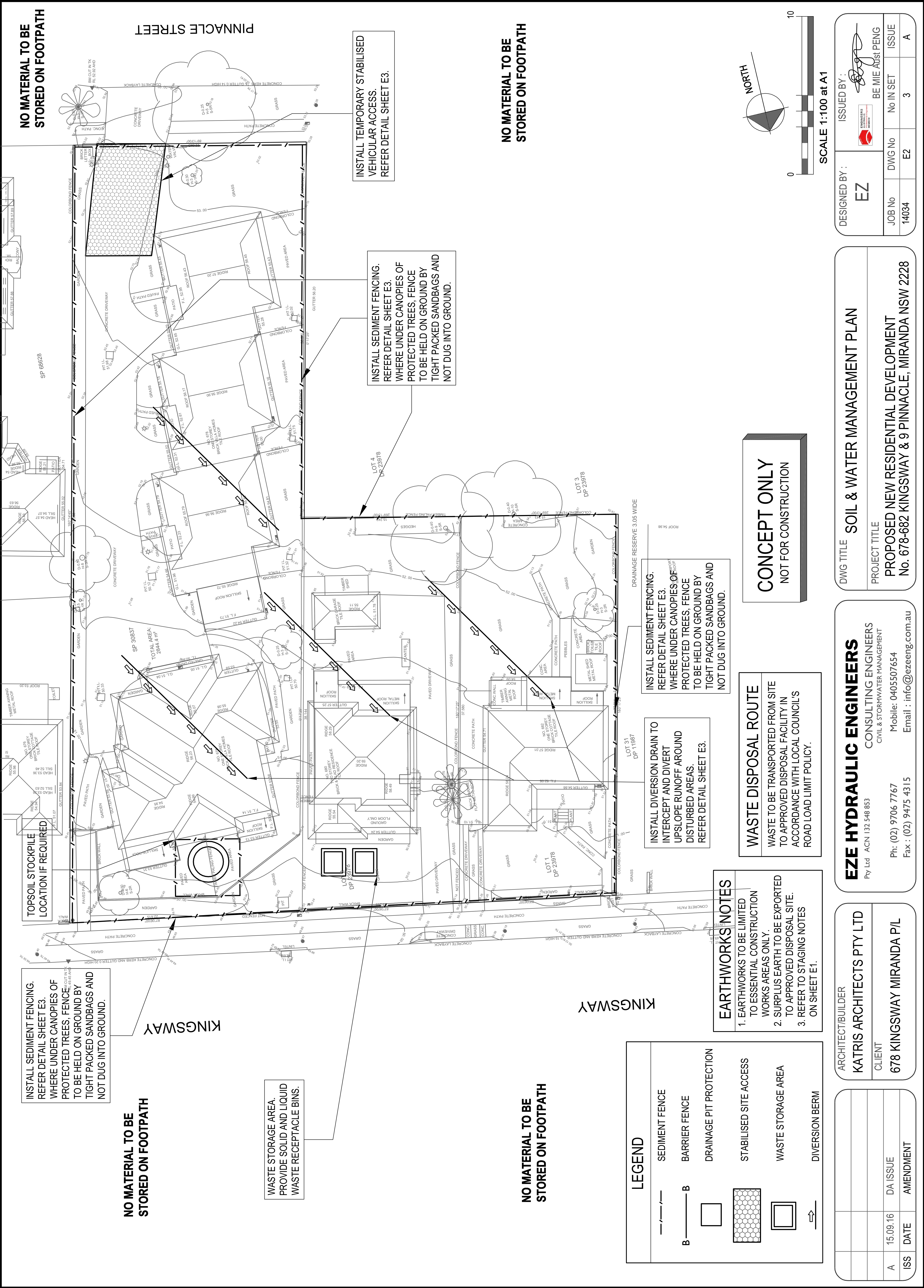
A	15.09.16	DA ISSUE
ISS	DATE	AMENDMENT

ARCHITECT/BUILDER	KATRIS ARCHITECTS PTY LTD
CLIENT	678 KINGSWAY MIRANDA P/L

EZE HYDRAULIC ENGINEERS Pty Ltd ACN 132 548 853	CONSULTING ENGINEERS CIVIL & STORMWATER MANAGEMENT
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DWG TITLE	COVER SHEET & INSTRUCTIONS
PROJECT TITLE	PROPOSED NEW RESIDENTIAL DEVELOPMENT No. 678-682 KINGSWAY & 9 PINNACLE, MIRANDA NSW 2228

DESIGNED BY :	EZ	ISSUED BY :	
JOB No	DWG No	No IN SET	ISSUE
14034	E1	3	A



INSTALL SEDIMENT FENCING.
REFER DETAIL SHEET E3.
WHERE UNDER CANOPIES OF
PROTECTED TREES, FENCE
TO BE HELD ON GROUND BY
TIGHT PACKED SANDBAGS AND
NOT DUG INTO GROUND.

NO MATERIAL TO BE
STORED ON FOOTPATH

WASTE STORAGE AREA.
PROVIDE SOLID AND LIQUID
WASTE RECEPTACLE BINS.

NO MATERIAL TO BE
STORED ON FOOTPATH

TOPSOIL STOCKPILE
LOCATION IF REQUIRED

KINGSWAY

KINGSWAY

PINNACLE STREET

NO MATERIAL TO BE
STORED ON FOOTPATH

INSTALL TEMPORARY STABILISED
VEHICULAR ACCESS.
REFER DETAIL SHEET E3.

NO MATERIAL TO BE
STORED ON FOOTPATH

INSTALL SEDIMENT FENCING.
REFER DETAIL SHEET E3
WHERE UNDER CANOPIES OF
PROTECTED TREES, FENCE
TO BE HELD ON GROUND BY
TIGHT PACKED SANDBAGS AND
NOT DUG INTO GROUND.

LEGEND	
	SEDIMENT FENCE
	BARRIER FENCE
	DRAINAGE PIT PROTECTION
	STABILISED SITE ACCESS
	WASTE STORAGE AREA
	DIVERSION BERM

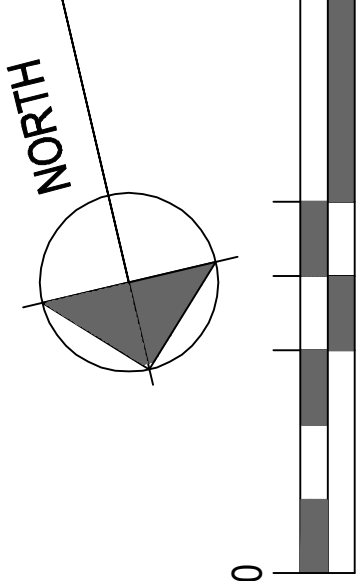
- EARTHWORKS NOTES**
- EARTHWORKS TO BE LIMITED TO ESSENTIAL CONSTRUCTION WORKS AREAS ONLY.
 - SURPLUS EARTH TO BE EXPORTED TO APPROVED DISPOSAL SITE.
 - REFER TO STAGING NOTES ON SHEET E1.

INSTALL DIVERSION DRAIN TO
INTERCEPT AND DIVERT
UPSLOPE RUNOFF AROUND
DISTURBED AREAS.
REFER DETAIL SHEET E3.

INSTALL SEDIMENT FENCING.
REFER DETAIL SHEET E3.
WHERE UNDER CANOPIES OF
PROTECTED TREES, FENCE
TO BE HELD ON GROUND BY
TIGHT PACKED SANDBAGS AND
NOT DUG INTO GROUND.

WASTE DISPOSAL ROUTE
WASTE TO BE TRANSPORTED FROM SITE
TO APPROVED DISPOSAL FACILITY IN
ACCORDANCE WITH LOCAL COUNCIL'S
ROAD LOAD LIMIT POLICY.

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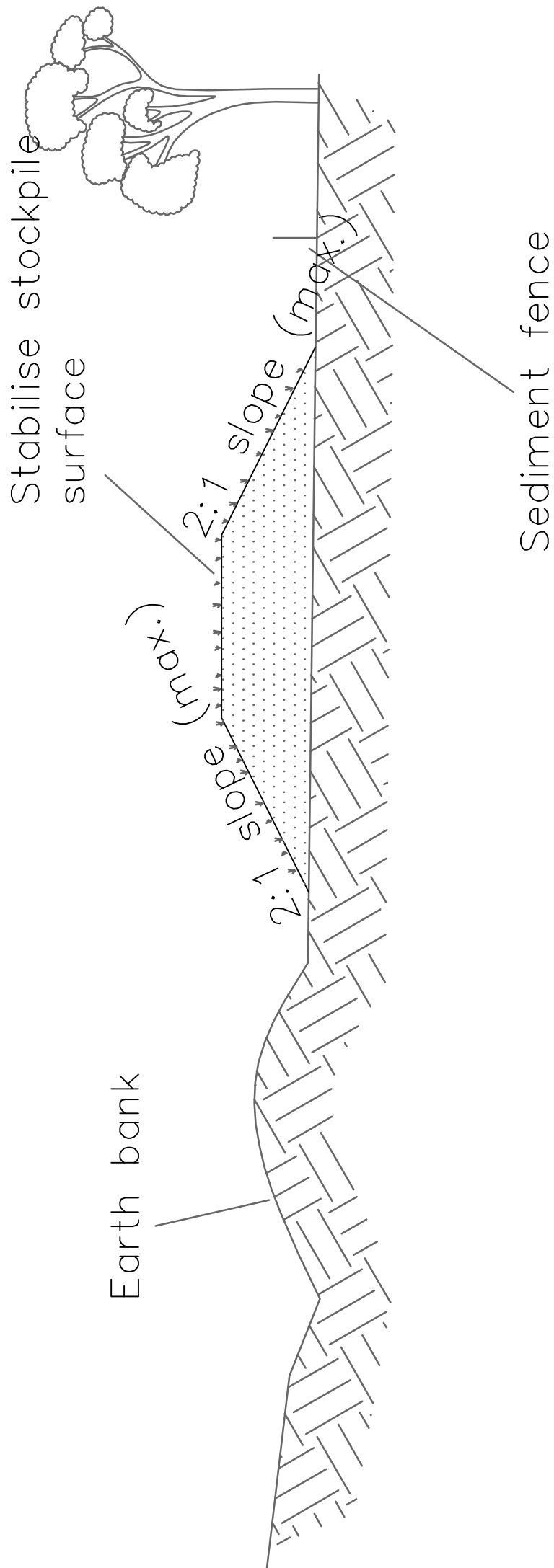
SCALE 1:100 at A1

ISS	DATE	DA ISSUE	AMENDMENT
A	15.09.16		

EZE HYDRAULIC ENGINEERS
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DWG TITLE **SOIL & WATER MANAGEMENT PLAN**
PROJECT TITLE **PROPOSED NEW RESIDENTIAL DEVELOPMENT**
No. 678-682 KINGSWAY & 9 PINNACLE, MIRANDA NSW 2228

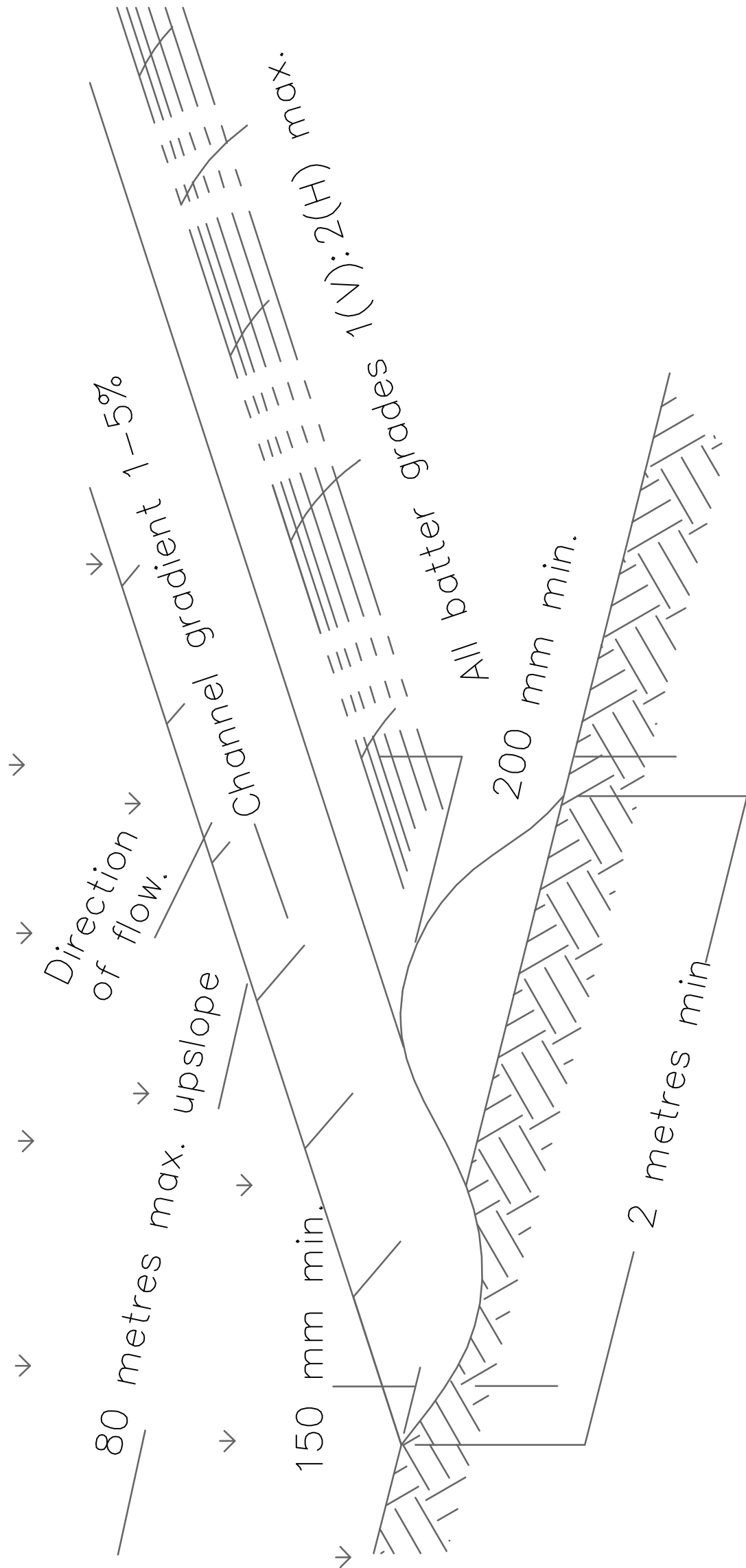
DESIGNED BY : **EZ**
ISSUED BY :
JOB No 14034
DWG No E2
No IN SET 3
ISSUE A



TYPICAL STOCKPILE DETAIL

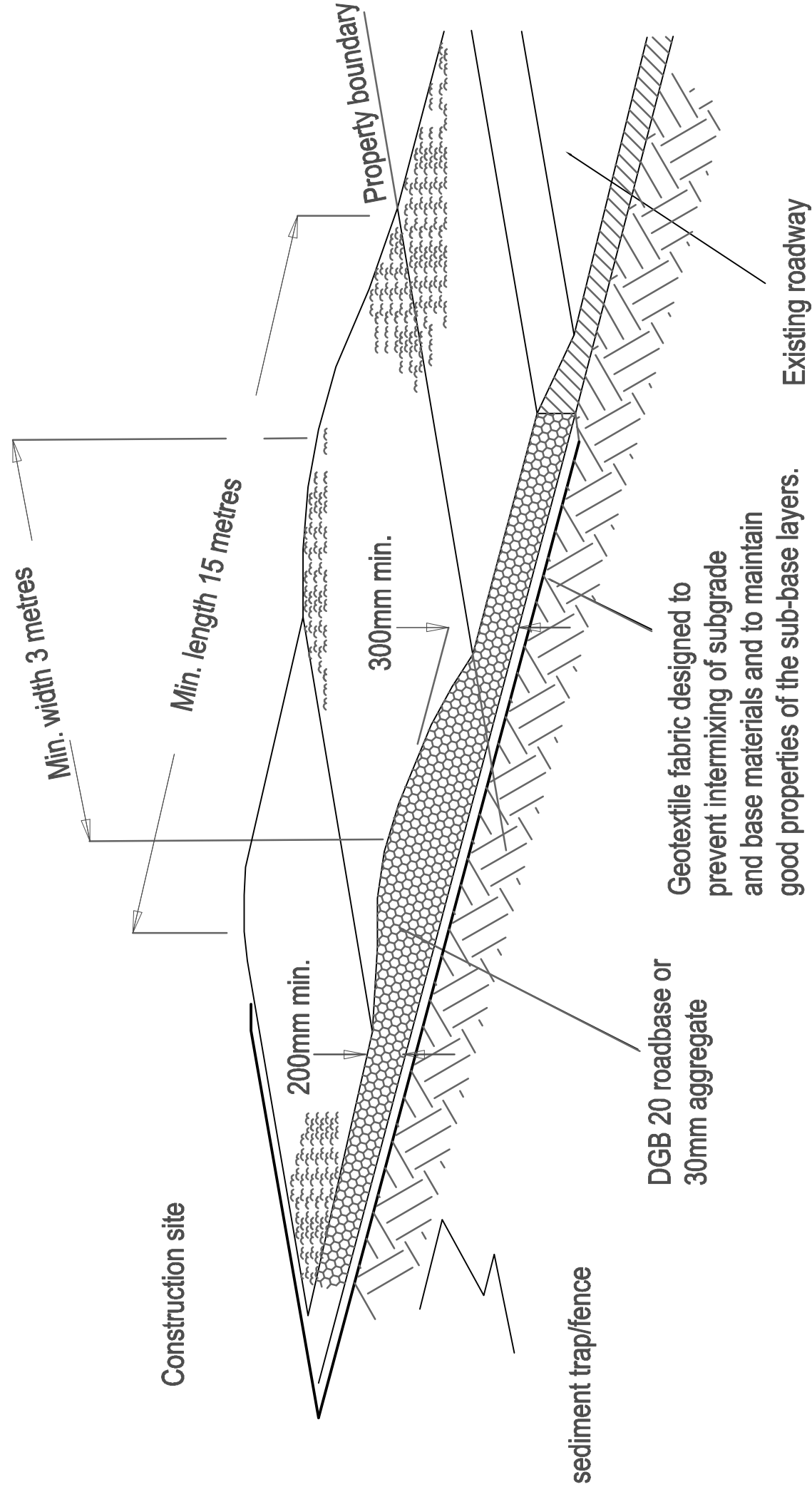
(SOURCE: "SOILS AND CONSTRUCTION", LANDCOM, 2004)

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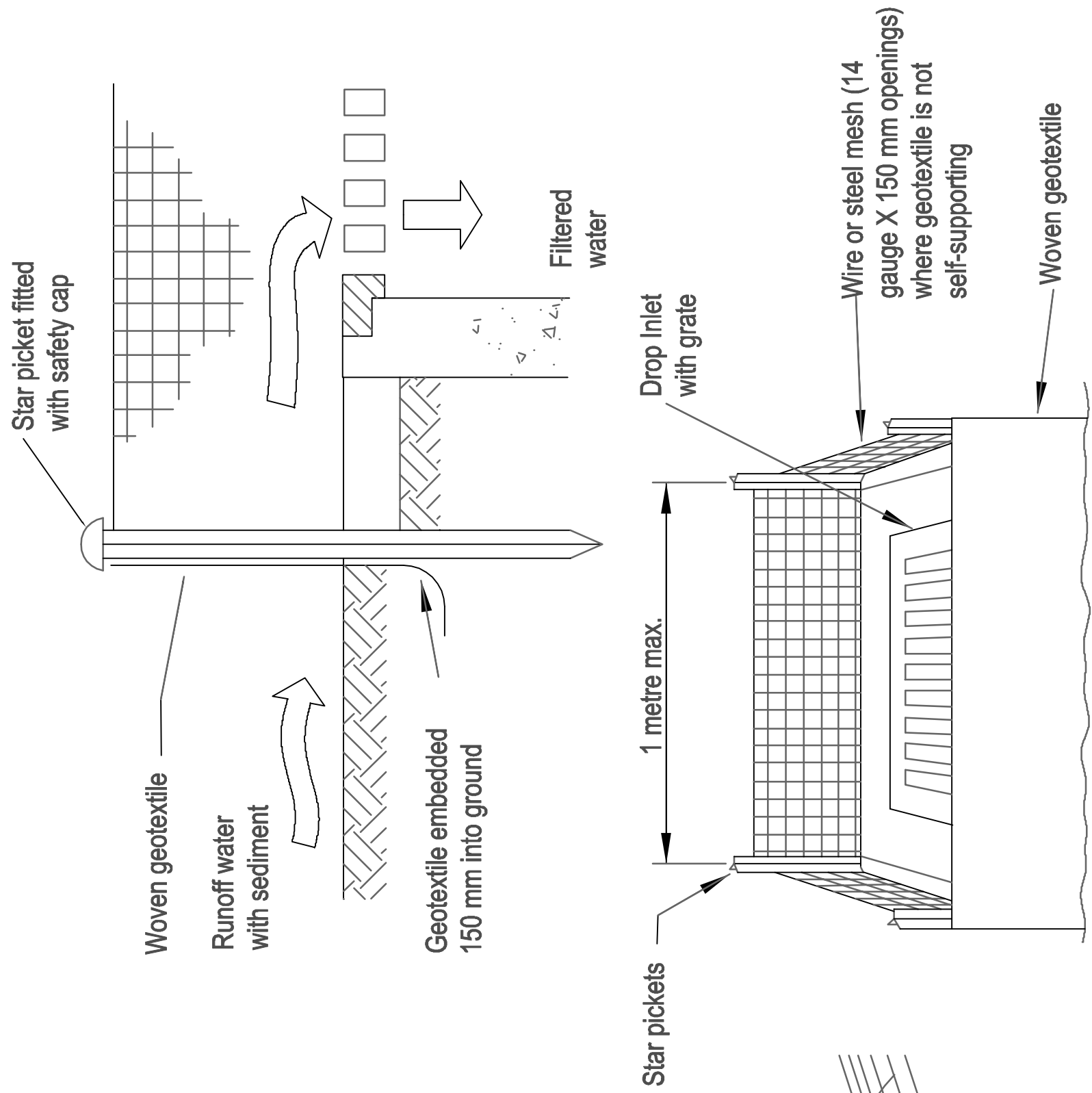
TYPICAL DIVERSION DRAIN

(SOURCE: "SOILS AND CONSTRUCTION", LANDCOM, 2004)



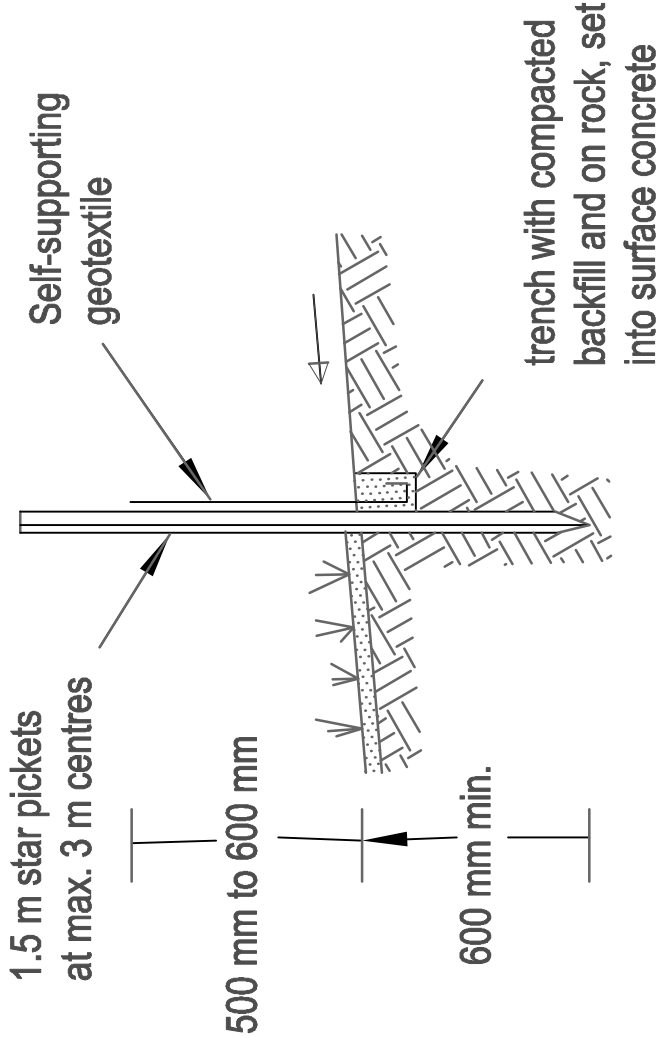
DETAIL - STABILISED SITE ACCESS

(SOURCE: "SOILS AND CONSTRUCTION", LANDCOM, 2004)

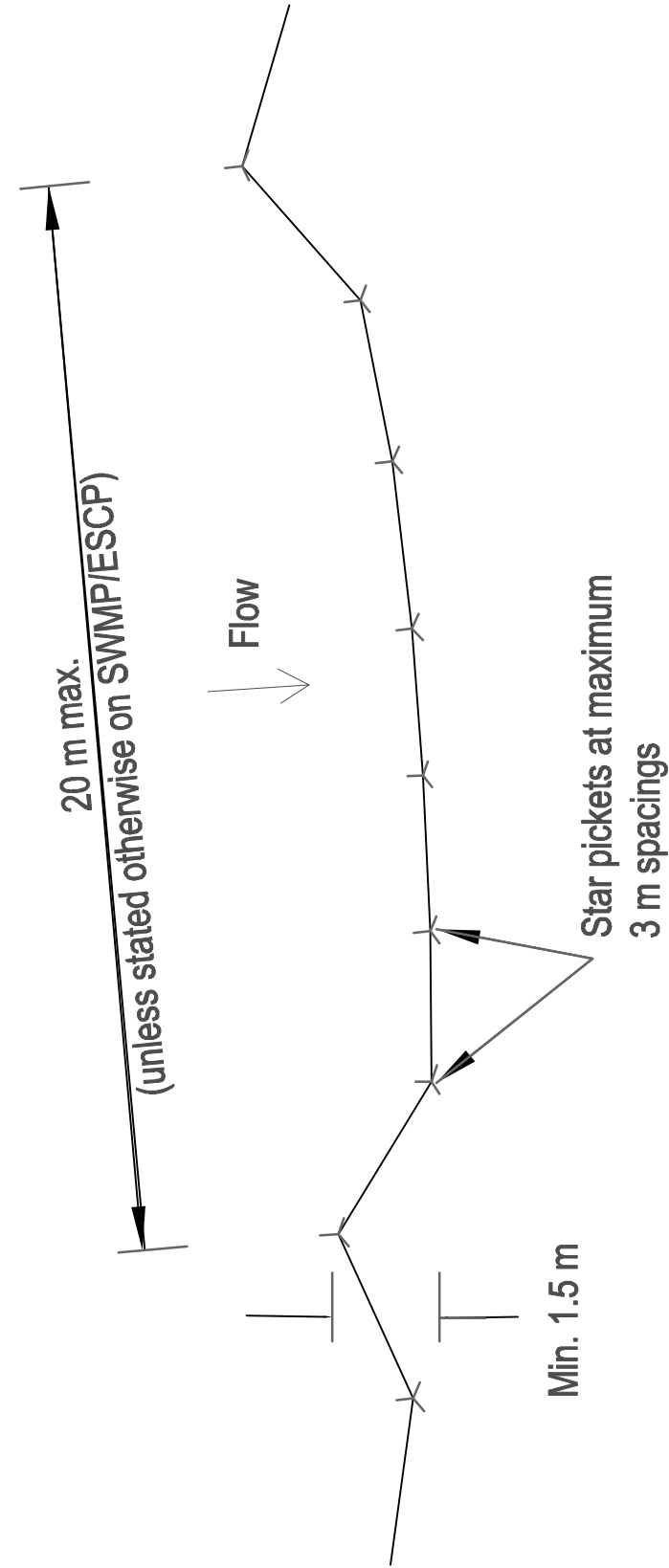


DETAIL PIT PROTECTION

(SOURCE: "SOILS AND CONSTRUCTION", LANDCOM, 2004)



SECTION DETAIL



PLAN

DETAIL - SEDIMENT FENCING

(SOURCE: "SOILS AND CONSTRUCTION", LANDCOM, 2004)

ISS	DATE	DA ISSUE	AMENDMENT
A	15.09.16	DA ISSUE	

ARCHITECT/BUILDER	KATRIS ARCHITECTS PTY LTD
CLIENT	678 KINGSWAY MIRANDA P/L

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DWG TITLE	SOIL & WATER MANAGEMENT DETAILS
PROJECT TITLE	PROPOSED NEW RESIDENTIAL DEVELOPMENT
	No. 678-682 KINGSWAY & 9 PINNACLE, MIRANDA NSW 2228

DESIGNED BY :	EZ	ISSUED BY :	BE MIE AUST PENG
JOB No	DWG No	No IN SET	ISSUE
14034	E3	3	A

DRIVEWAY	
TURF AREAS	
PODIUM GARDENS	
DEEP SOIL GARDENS	
PROPOSED RESURFACE	
PAVED TYPE 1	
PAVED TYPE 2	
DECKED AREAS	

Drawing List	Sheet No.	Sheet Name	Rev. No.	Rev. Date	Project No.
L-01	A1	LANDSCAPE PLANS	B	24/1/17	1535
L-02	A1	ROOFTOP LANDSCAPE	B	24/1/17	1535
L-03	A1	PLANTING PLAN	B	24/1/17	1535

KEY

1. COMMUNAL SPACE AREA WITH VARIED USES INCLUDING SEATING, BBQ
2. INDIGENOUS PLANTING AREAS AS PER GREEN WEB GUIDELINES
3. PUBLIC WALKWAYS LINKING PINNACLE STREET AND THE KINGSWAY
4. RAISE PLANTERS INCLUDING MIXED LOW SHADE TOLERANT SPECIES MIXED INDIGENOUS

ISSUE	DATE	COMMENT
A	23/9/16	ISSUE FOR DA REVIEW
A	24/1/17	ISSUE FOR DA REVIEW

AMENDMENTS -

NOTES

GENERAL NOTES
All work to be carried out in accordance with the Building Code of Australia, all Local and State Government Ordinances, relevant Australian Standards, and any other relevant legislation. All structural work and site drainage to be subject to Engineer's details or certification where required by Council. This shall include r.c. slabs and footings, retaining walls, and all other structural elements. All drainage to be subject to Engineer's details or certification where required by Council. This shall include r.c. slabs and footings, retaining walls, and all other structural elements. All drainage to be subject to Engineer's details or certification where required by Council. This shall include r.c. slabs and footings, retaining walls, and all other structural elements.

NOTE: Scale of the drawings unless otherwise stated and use figured dimensions in preference. All dimensions are to be checked and verified on site before the commencement of any work, all dimensions and levels are subject to final survey and set out. No responsibility will be accepted by Sitedesign for any variations in design, construction or materials used, or for any damage to existing structures or infrastructure, or for any delay or cost incurred by the client or third parties, resulting from any variation or omission from the specification without permission or accepted work practices resulting in inferior construction. Locate and protect all services prior to construction. THE COPYRIGHT CLAUSE is the property of Sitedesign and should not be reproduced either in part or whole without the written consent of this firm.

Greenweb

Core
Areas containing key habitat areas, key linkages and threatened species, or endangered ecological communities (usually greater than 3.5 Ha).

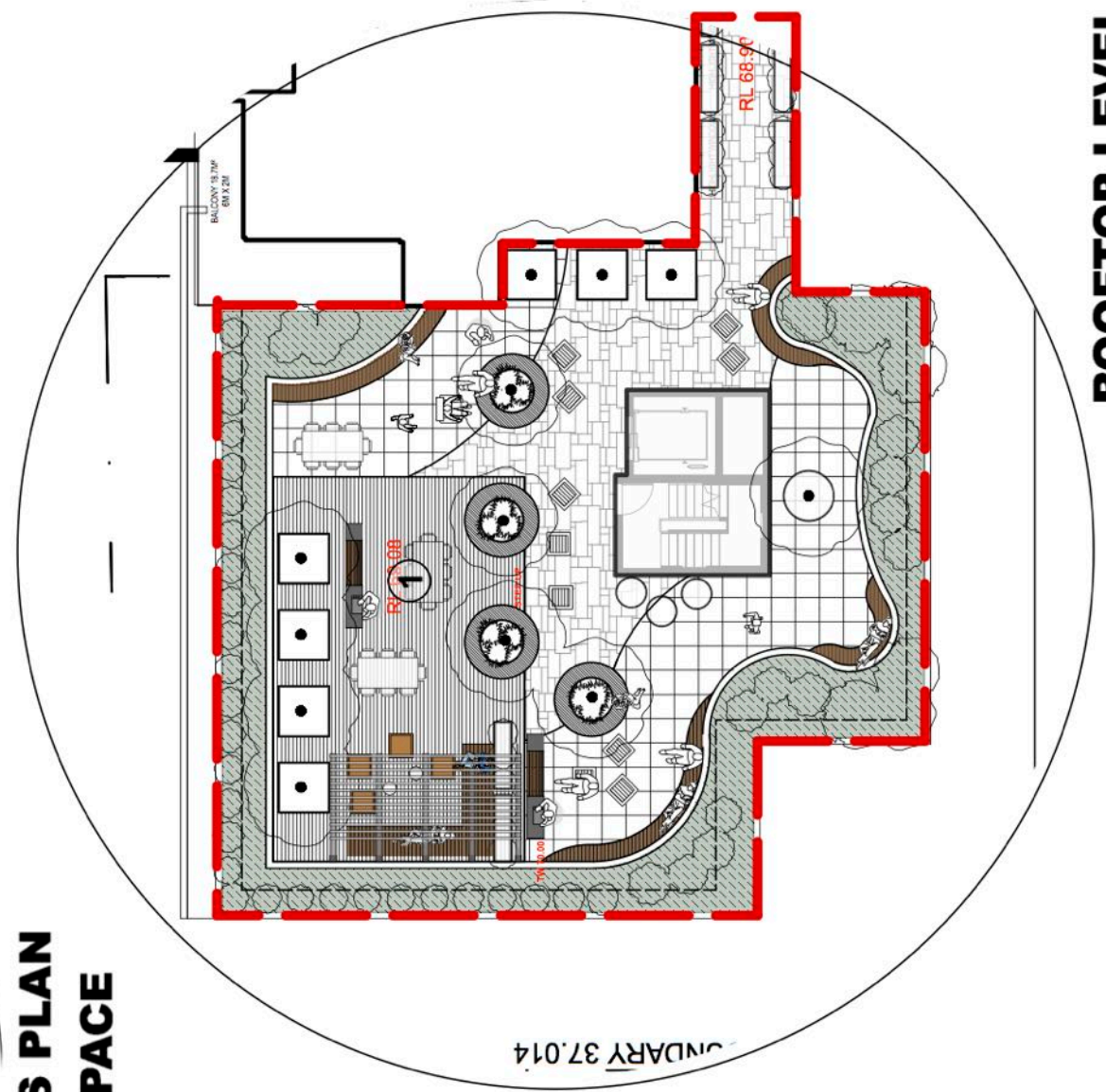
Support
Areas containing ancillary habitat areas, secondary linkages between habitats, or lands that form a buffer between developments adjacent key habitats and corridors.

Restoration
Areas providing opportunities for the establishment and vegetation of corridors between core areas.

Greenweb is a strategy to conserve and enhance Sutherland Shire's bushland and biodiversity by identifying and appropriately managing key areas of bushland habitat and establishing and maintaining interconnecting linkages and corridors.

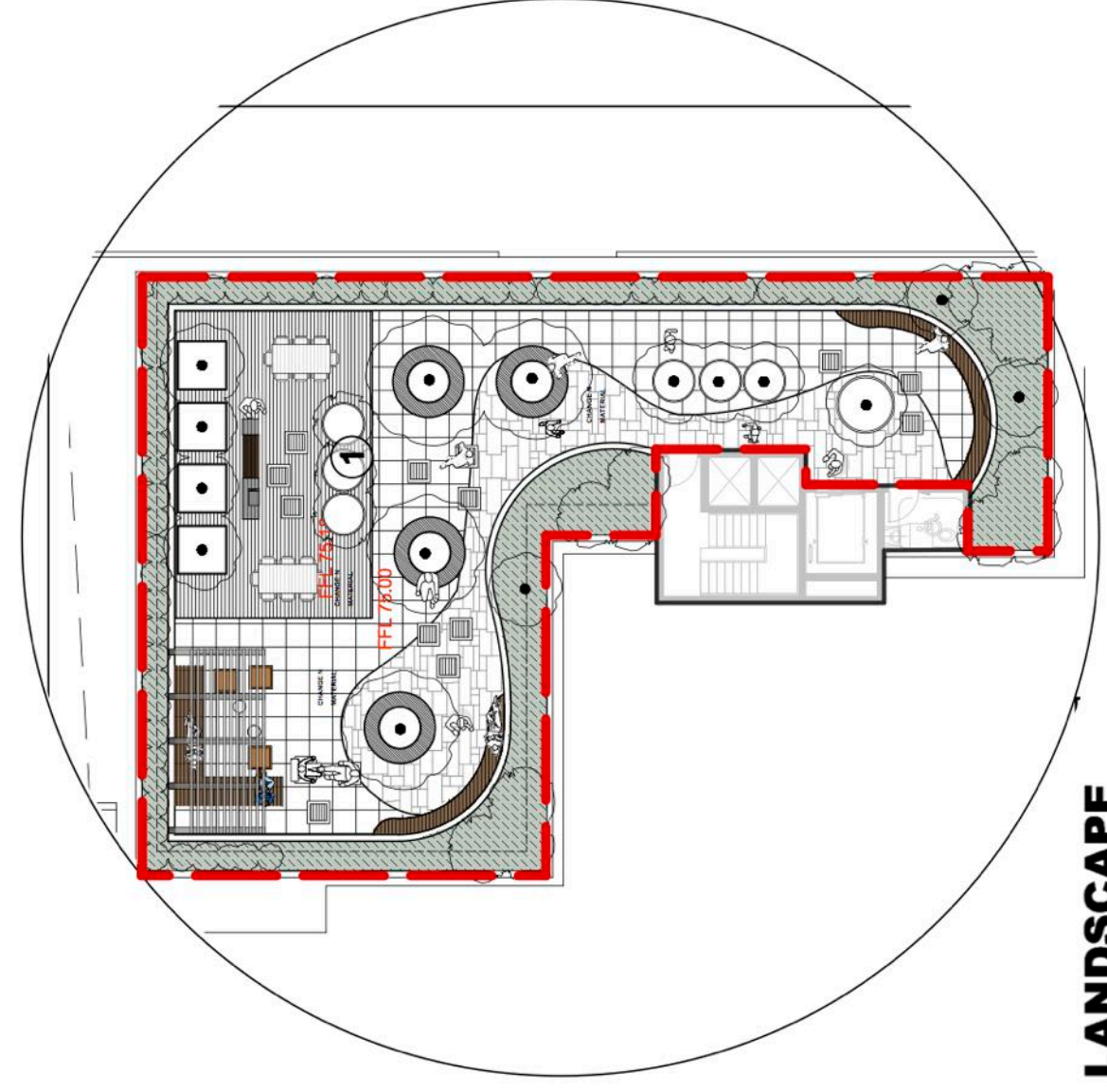


RESTORATION GREENWEB

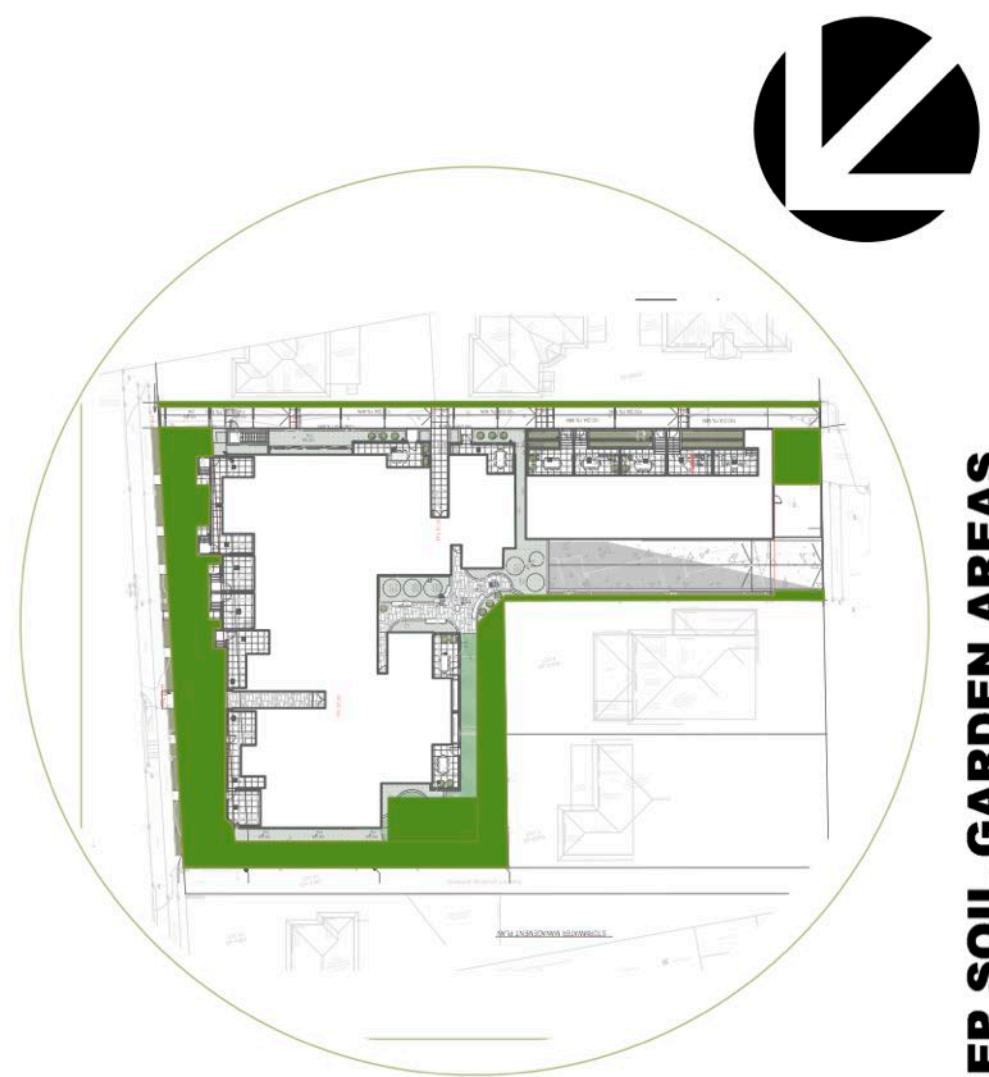


GROUND FLOOR LANDSCAPE
384M2 COMMUNAL SPACE

ROOFTOP LEVEL 6
410M2 COMMUNAL SPACE



ROOFTOP LANDSCAPE
352M2 COMMUNAL SPACE



DEEP SOIL GARDEN AREAS

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Project PROPOSED DEVELOPMENT
Address 678 - 682 & 9 PINNACLE ST, MIRANDA
Drawing Title LANDSCAPE PLANS
Client HANNA Scale 1:200@A1 Drawing No. 1535

Page

L-01 B

[illegible]

This architectural section drawing illustrates a building's interior and its connection to the outdoors. The building features a central corridor and several rooms, including a large open space with a staircase. Outside, a paved area with chairs and a large tree are visible. Numbered circles 1 through 4 highlight specific areas: 1 is near the tree, 2 is in the paved area, 3 is in the grassy area, and 4 is near the building's entrance.

[illegible][illegible]

2000W X 2000W X 1000H CIVIC PLANTER

1500 X 500H U BOWL TIMBER SEAT

Project	PROPOSED DEVELOPMENT
1	1
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Project	PROPOSED DEVELOPMENT
Address	678 - 682 & 9 PINNACLE ST, MIRANDA

Drawing Title **ROOFTOP LANDSCAPE**

LANDSCAPE ARCHITECTS // CONSTRUCTION // MAINTENANCE // IRRIGATION

