BROWN COMMERCIAL BUILDING
PH: (02)4966 0218
ABN: 14 619 195 078
P.O. Box 596 East Maitland NSW 2323

Our Ref: BC0203

REVISION SCHEDULE

JOB : 10 – 14 WILSONS ROAD MOUNT HUTTON
CLIENT : MT HUTTON LF PTY LTD

REV	DESCRIPTION	DATE	DRAFTSPERSON
12	EG CANOPY REVIEWED FOR THE SITE RETAINING WALL TO BE MOVED CLOSER TO WILSONS RD RETAINING HEIGHT REVISED	30.09.21	M.MARSHALL
13	EG CANOPY REVISIONS, BAY SIZING, LANDSCAPE SPACING TRUCK REVIEW FOR SITE	01.10.21	M.MARSHALL
14	LANDSCAPING INCREASED REMOVAL OF CAR PARKING SP. ACOUSTIC FENCE HEIGHT REVISED AS PER MULLER	16.12.21	M.MARSHALL
15	ACOUSTIC REPORT MODIFIED EXIT AROUND ACOUSTIC FENCE, PED X REVISED AS PER ENGINEERING,	17.12.21	M.MARSHALL
16	ACOUSTIC FENCING REVISED AS PER MULLER ACOUSTIC REVISED PLAN	17.12.21	M.MARSHALL
17	SERVICE STATION LAYOUT REVISED, CANOPY REVISED ADDITIONAL GARDEN TO NORTHERN CORNER	07.02.22	L.TAYLOR
18	VEHICLE TURNING AMENDED.	07.02.22	M.MARSHALL
19	ONE MOTORBIKE PARKING MOVED TO NORTH WESTERN CORNER,	09.02.22	M.MARSHALL
20	STEPPING OF LANDSCAPED AREA ON NORTHERN SIDE, FLOOR AREA NOTATION REVISED, REDUCTION IN FOOD OUTLET, REDUCTION TO SHARED SERVICE YARD RESULTING IN A STRAIGHT ACOUSTIC WALL ON NORTHERN SIDE, INCREASE IN DRIVE THROUGH LANDE FROM 3.0m TO 3.2m IN WIDTH, LANDSCAPING AREA ADDED, 1m HIGH NON ACOUSTIC FENCE ADDED TO NORTH WESTERN BOUNDARY, MINOR REDUCTION IN EXTERNAL CONCRETE FROM 1997m2 TO 1962m2,	07.03.22	M.MARSHALL

DEVELOPMENT APPLICATION

Service Station & Take Away Food
Lot 1-3, DP21206, 10-14
Wilsons Rd Mount Hutton

LIST OF

- CLAUSE B1.4 – MATERIALS & FORMS CONSTRUCTIONS
- SPEC. C1.1- FIRE RESISTING CONSTRUCTION
- SPEC. C1.10 – FIRE HAZARD PROPERTIES
- SPEC. C1.11 – PERFORMANCE OF EXTERNAL WALLS IN A FIRE
- CLAUSE C2.6 – VERTICAL SEPARATION OF OPENINGS IN EXTERNAL WALLS
- CLAUSE C2.12 – SEPARATION OF EQUIPMENT
- CLAUSE C2.13 – ELECTRICITY SUPPLY SYSTEM
- CLAUSE C3.4 – ACCEPTABLE METHODS OF PROTECTION (OF OPENINGS)
- CLAUSE C3.8 – OPENING IN FIRE ISOLATED EXITS
- CLAUSE C3.15 – OPENINGS FOR SERVICE INSTALLATIONS
- CLAUSE D1.10 – DISCHARGE FROM EXITS
- CLAUSE D2.7 – INSTALLATIONS IN EXITS AND PATHS OF TRAVEL

*- CLAUSE D2.13 – GOINGS AND RISERS TREADS WHICH HAVE:-
a. A SURFACE WITH A SLIP-RESISTANCE CLASSIFICATION NOT LESS THAN THAT LISTED IN TABLE D2.14 WHEN TESTED IN ACCORDANCE WITH AS 4586 OR
(B) A NOSING STRIP WITH A SLIP-RESISTANCE CLASSIFICATION NOT LESS THAN THAT LISTED IN TABLE D2.14 WHEN TESTED IN ACCORDANCE WITH AS 4586.

*- CLAUSE D2.14 – LANDINGS WHICH HAVE: -
a. A SURFACE WITH A SLIP-RESISTANCE CLASSIFICATION NOT LESS THAN THAT LISTED IN TABLE D2.14 WHEN TESTED IN ACCORDANCE WITH AS 4586 OR
(B) A STRIP AT THE EDGE OF THE LANDING WITH A SLIP-RESISTANCE CLASSIFICATION NOT LESS THAN THAT LISTED IN TABLE D2.14 WHEN TESTED IN ACCORDANCE WITH AS 4586, WHERE THE EDGE LEADS TO A FLIGHT BELOW.

- CLAUSE D2.15 – THRESHOLDS
- *- CLAUSE D2.16 – BALUSTRADES
- *- CLAUSE D2.17 – HANDRAILS
- CLAUSE D2.21 – OPERATION OF LATCH
- CLAUSE D2.23 – SIGN ON DOORS
- CLAUSE D3.2 – GENERAL BUILDING ACCESS REQUIREMENTS
- CLAUSE D3.3 – PARTS OF BUILDING TO BE ACCESSIBLE
- CLAUSE D3.6 – IDENTIFICATION OF ACCESSIBLE FACILITIES, SERVICES AND FEATURES
- CLAUSE D3.8 – TACTILE INDICATORS
- CLAUSE F1.7 – WATERPROOFING OF WET AREAS
- CLAUSE F1.9/ F1.10 – DAMP PROOFING
- CLAUSE F2.5 – CONSTRUCTION OF SANITARY COMPARTMENTS
- PART F4 – LIGHTING AND VENTILATION
- CLAUSE F5.4 – SOUND INSULATION OF FLOORS
- CLAUSE F5.5 – SOUND INSULATION OF WALLS
- CLAUSE F5.6 – SOUND INSULATION OF SERVICES
- CLAUSE F5.7 – SOUND INSULATION OF PUMPS

GENERAL

1. BUILDING SHELL DESIGN INTENT SHOWN.CONTRACTOR TO PROPOSE DETAILED DESIGN FOR CONSTRUCTION, INCLUDING ALL SITE RELATED WORKS, STRUCTURAL, CIVIL WORKS & BUILDING SERVICES.
2. THE CONTRACTOR SHALL VERIFY ALL EXISTING IN-GROUND AND ABOVE-GROUND SERVICES WITHIN THE SCOPE OF WORKS BEFORE COMMENCING CONSTRUCTION/DEMOLITION.
3. ANY 3D DRAWINGS ARE INDICATIVE ONLY, AND ARE TO BE READ IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.
4. ALL ACCESSIBILITY AND MOBILITY DESIGN (DDA) ITEMS TO COMPLY WITH A.S. 1428.1 2009
5. THIS DRAWINGS SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS, SPECIFICATIONS, SCHEDULES AND DRAWINGS INCLUDING CIVIL, STRUCTURAL, HYDRAULIC
6. DIMENSIONS:

CONTRACTOR AND SUB-CONTRACTOR SHALL VERIFY ALL DIMENSIONS OF THIS DRAWING AND SITE CONDITIONS PRIOR TO ANY WORK COMMENCING.
FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS (UNLESS NOTED OTHERWISE).
FIGURED DIMENSIONS ARE:

- WALL / PARTITIONS SETOUT TO CENTRE LINE WHERE NOTED
- ALL OTHER WALL/PARTITION DIMENSIONS ARE TO FINISH FACE OF PARTITION.
- CEILINGS: FINISHED UNDERSIDE OF CEILINGS - CEILING HEIGHT IS MEASURED FROM FINISH FLOOR LEVEL.
- FITTINGS AND FIXTURES; - DIMENSIONS TO FIXTURES AND FITTINGS ARE SETOUT FROM "FINISH" WALL FACE / FINISH FLOOR LEVEL.

PLANS TO BE READ IN CONJUNCTION WITH:

- BUILDING CODE OF AUSTRALIA
- RELEVANT AUSTRALIAN STANDARDS
- HYDRAULIC DRAWING SET
- CIVIL DRAWING SET
- STRUCTURAL DRAWING SET
- LANDSCAPE DRAWING SET

IF NO INTERNAL FITOUT FINISHES & PLANS ARE PRESENT, CLIENT SELECTIONS & DETAILS ARE TO TAKE PRECEDENCE.

PLEASE NOTE:
DETAILS SHOWN ON THIS PLAN ARE INTENDED TO BE ACCURATE,
HOWEVER INFORMATION WRITTEN INTO INDIVIDUAL CONTRACTS
AND DRAWINGS WILL TAKE PRECEDENCE OVER THIS SET.

NOTE: PROPOSED DEVELOPMENT WILL BE DESIGNED & CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING STANDARDS.

AS3798 - EARTHWORKS
AS3600 - STEEL STRUCTURES
AS4100 - STRUCTURAL STEEL
AS1288 - GLASS IN BUILDINGS
AS1940 - METAL ROOF SHEETING
AS3740 - WET AREA CONSTRUCTION
AS2311 - PAINTING OF BUILDINGS
AS2419 - INSTALLATION OF PORTABLE FIRE EXTINGUISHERS
AS2293 - EMERGENCY ESCAPE LIGHTING & SIGNS
AS1428 - DESIGN FOR ACCESS & MOBILITY
AS2890 - OFF STREET PARKING FACILITIES

INFORMATION NOT SUPPLIED ON THIS DRAWING WILL NEED TO BE CONFIRMED BY LESSEE SPECIFICATION
INTERNAL ELEVATIONS SHOWN ARE INDICATIVE ONLY AND FURTHER DETAIL WILL NEED TO BE ADDED BY LESSEE
ALL FOOD OUTLET AREAS TO COMPLY WITH AS 4674-2004

SHEET LIST

Sheet No.	Sheet Name	Rev	Current Rev Date
00	COVER PAGE & EXISTING SITE	20	07.03.22
01	DEMOLITION PLAN	4	17.09.20
03	BUILDING PLANS	17	18.02.22
04	Canopy Plans	4	17.09.20
05	SIGNAGE PLAN	7	02.03.21
06	SHADOW DIAGRAMS	19	02.03.22

Rev	Description	Date
20	General revs	07.03.22
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Client

Mt Hutton LF Pty Ltd

Project

Service Station and Take Away Food

Location:	
Lot:	1-3
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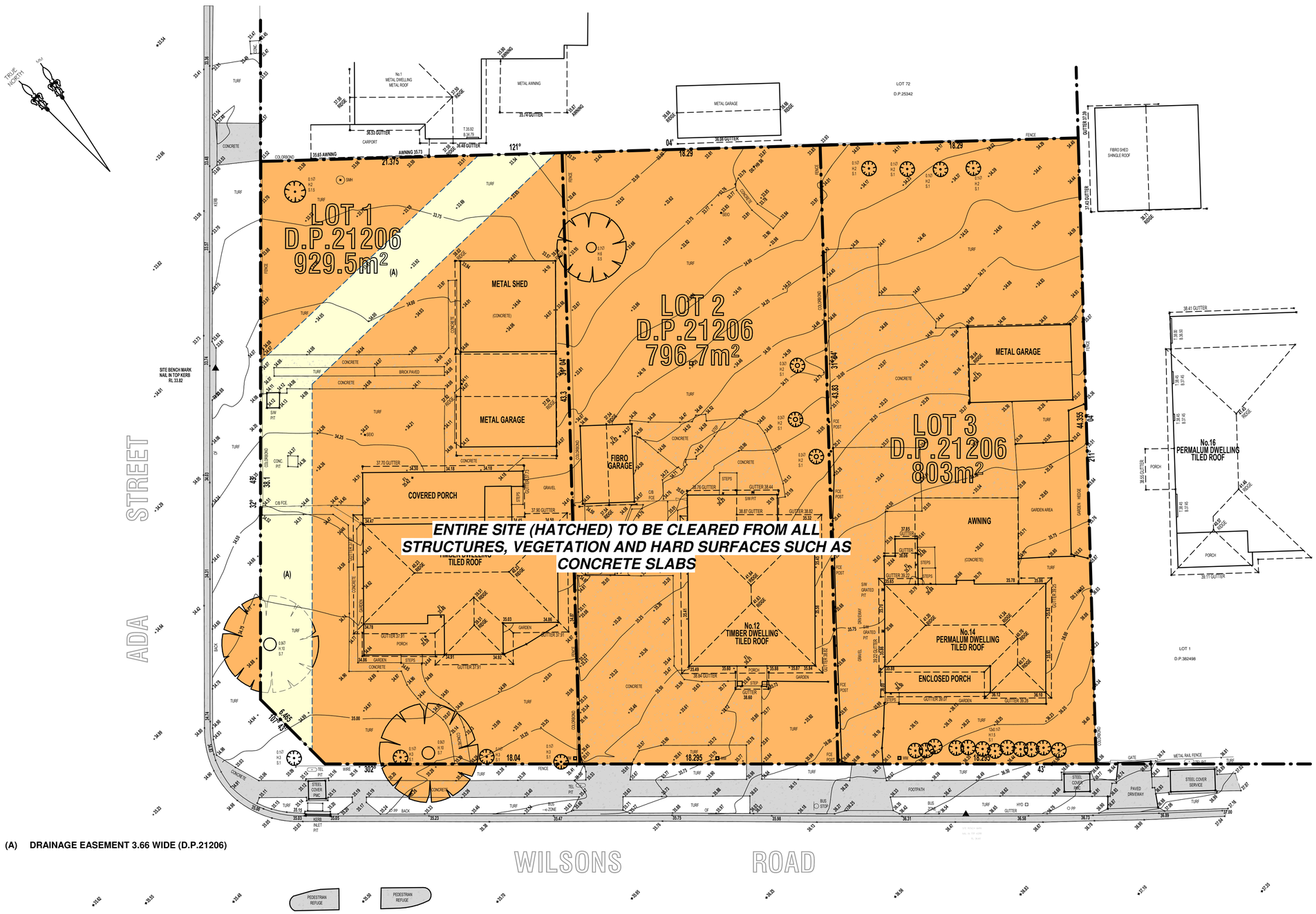
DP:	21206
Scale	As indicated
Drawn by	
Checked by	
Sheet Size	A1

Drawing

COVER PAGE & EXISTING SITE

Job No:	Issue:	No:
BC0203 20		**00**



Demolition Plan

1 : 150 (A1)

DEMOLITION

LEGEND

TO BE DEMOLISHED OR RELOCATED

ALL BUILDINGS WITHIN HATCHED AREA INDICATED ABOVE, POOLS, EXTERNAL CONCRETE TO BE DEMOLISHED.

ALL DEMOLISHED STRUCTURES TO BE DONE IN ACCORDANCE WITH AS2601-2001 Demolition of Structures

Rev	Description	Date
4	Issued for DA	17.09.20
3	Revision	08.09.20
2	Revision	27.08.20
1	Issued to Client	24.08.20

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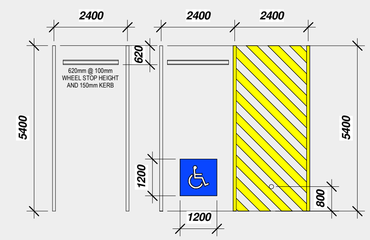
Drawing

DEMOLITION PLAN

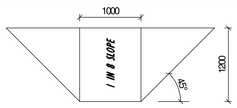
Job No:	Issue:	No:
BC0203	4	01

PARKING DETAILS:

OFF STREET CAR PARKING TO COMPLY WITH AS 2890.1 - 2004
DISABILITY CAR PARKING TO COMPY WITH AS2890.6 - 2009
BICYCLE PARKING FACILITIES TO AS2890.3 1993



ACCESS AND MOBILITY



KERB RAMP TYPICAL DIMENSIONS
SCALE - 1:25

REFER TO AS 1428.1 - 2009 FOR FURTHER INFORMATION

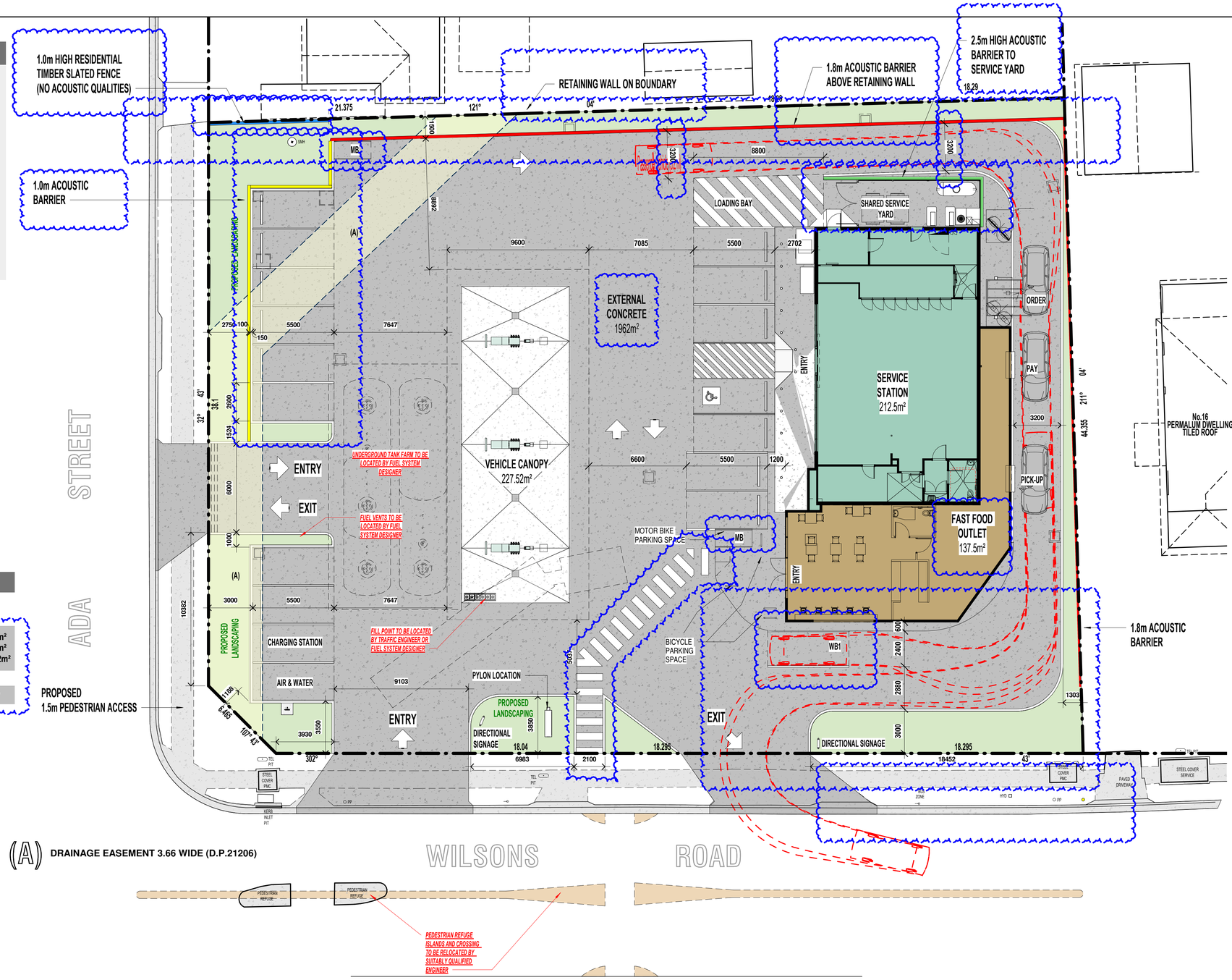
SITE DETAILS

ZONING	B2	
SITE AREA:	2529.2m²	
BUILDING AREAS:	FAST FOOD BUILDING	137.5m²
	SERVICE STATION BUILDING	212.5m²
	CANOPY STRUCTURE	227.52m²
LANDSCAPE AREA:	LANDSCAPING	330m²

CAR PARKS: 17 Parks
BIKE PARKS (Racks): 7 Parks
MOTORBIKE PARKING: 2 Parks

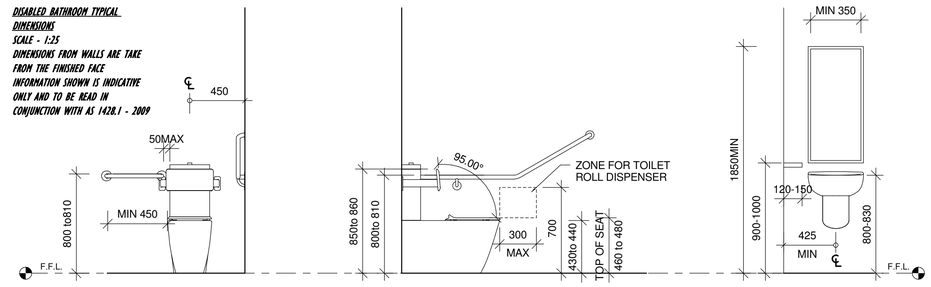
Off street car parking to comply with AS 2890.1 - 2004
Disability car parking to compy with AS2890.6 - 2009
Bicycle parking facilities to AS2890.3 1993

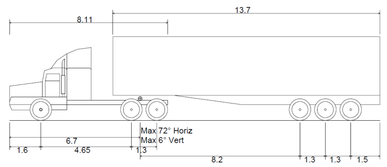
PROPOSED
1.5m PEDESTRIAN ACCESS



ACCESS AND MOBILITY

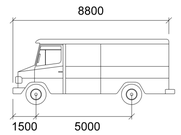
DISABLED BATHROOM TYPICAL DIMENSIONS
SCALE - 1:25
DIMENSIONS FROM WALLS ARE TAKE FROM THE FINISHED FACE
INFORMATION SHOWN IS INDICATIVE ONLY AND TO BE READ IN CONJUNCTION WITH AS 1428.1 - 2009





Prime mover and semi-trailer (19 m)

Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.540m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



SERVICE VEHICLE

Width	:	2500mm
Track	:	2500
Lock to Lock Time	:	6.0
Steering Angle	:	38.7

NOTE:
FINISHED GROUND & FLOOR LEVELS AND RETAINING WALLS ARE TO BE READ IN CONJUNCTION WITH CIVIL ENGINEERING DRAWINGS.

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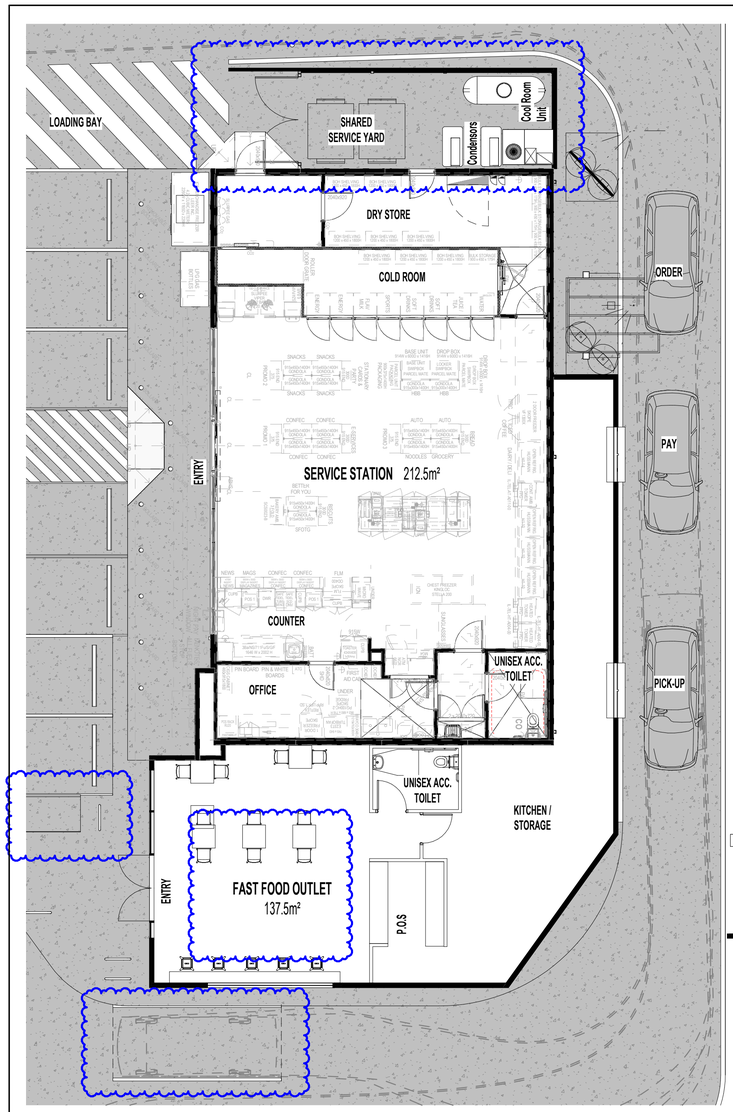
Drawing

SITE LAYOUT PLAN

Job No: BC0203 20 Issue: 02 No:

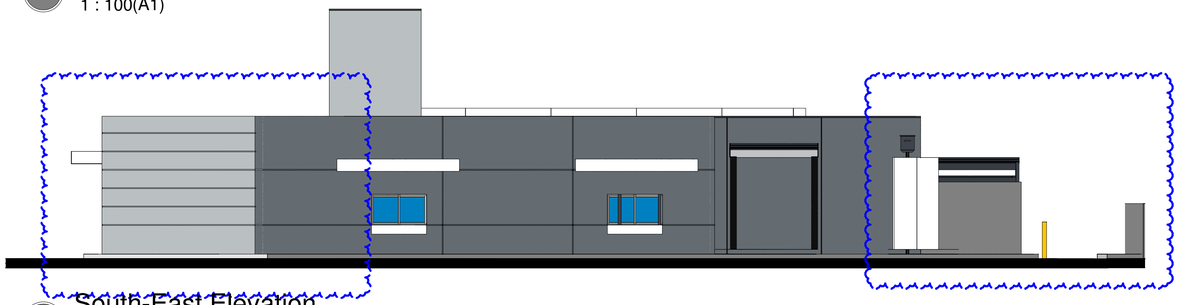


Building Layout Plan

1 : 100(A1)

North-West Elevation

1 : 100(A1)



South-East Elevation

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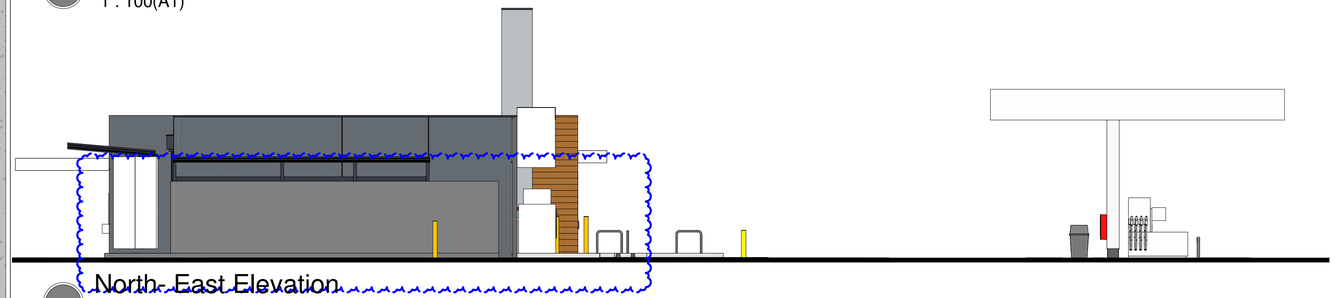

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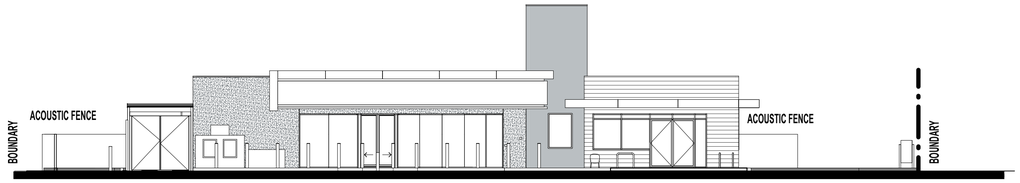

North-West Sectional Elevation

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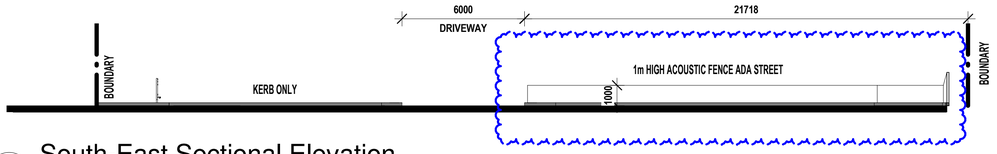

South-East Sectional Elevation

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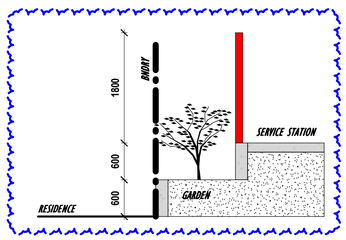
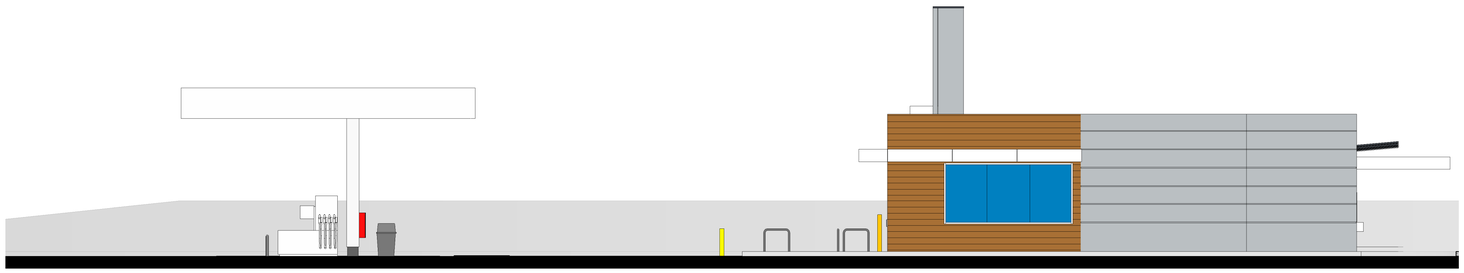


TYP Northern Section Garden and Retaining

1 : 50 (A1)



South-West Elevation

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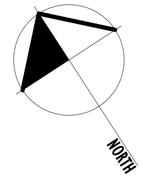

NOTE:

- FINISHED GROUND & FLOOR LEVELS AND RETAINING WALLS ARE TO BE READ IN CONJUNCTION WITH CIVIL NGINEERING DRAWINGS.
- ALL KITCHENS AND FOOD SERVICE FACILITIES TO COMPLY WITH AS 4674.
- SOLID HEBEL WALL CONSTRUCTION FOR FOOD PREP AREAS WILL BE DETERMINED AT CONSTRUCTION CERTIFICATE.
- ALL CIRCULATION, ACCESS, EGRESS OF LAYOUT TO COMPLY WITH AS 1428.1 - 2009

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15	Driveway-Ped-Acoustic	17.12.21
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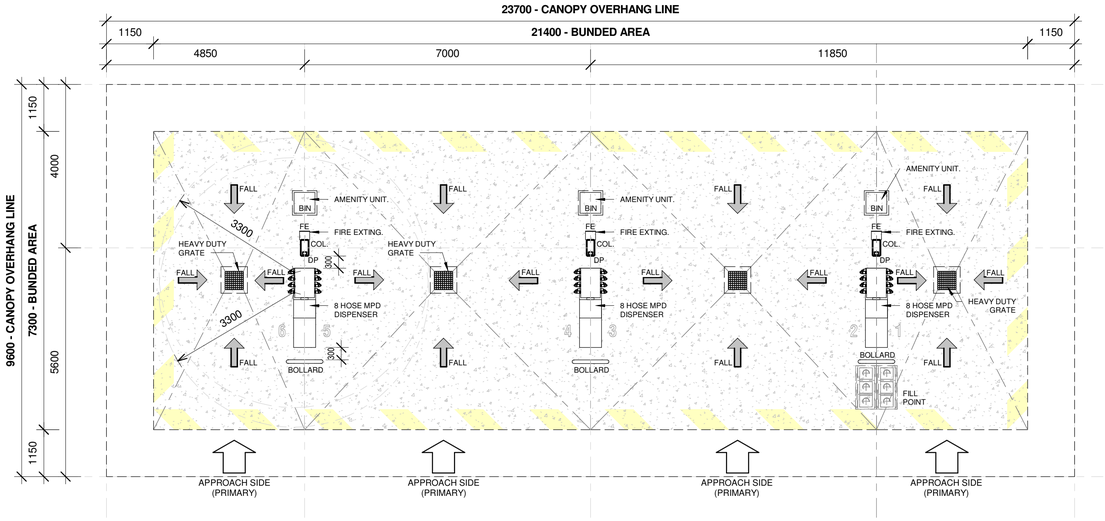
Drawing

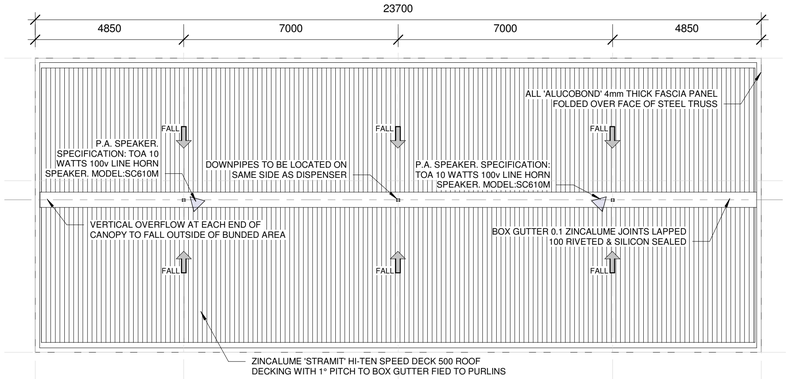
BUILDING PLANS

Job No:	Issue:	No:
BC0203 17		**03**



CANOPY FLOOR PLAN

1 : 75 (A1)



CANOPY ROOF PLAN

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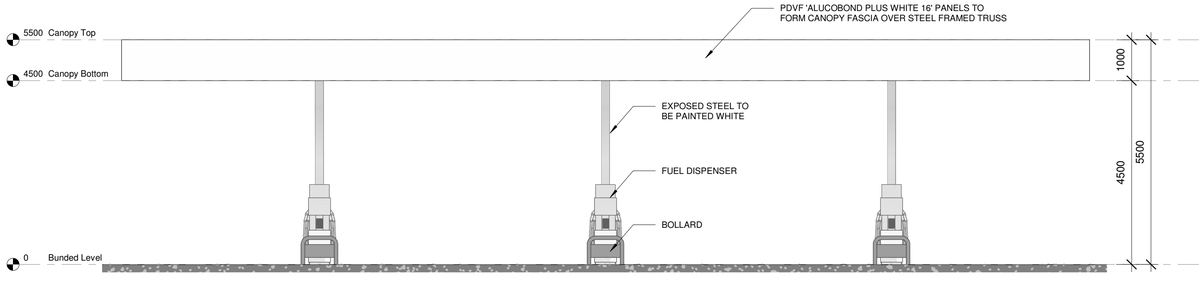
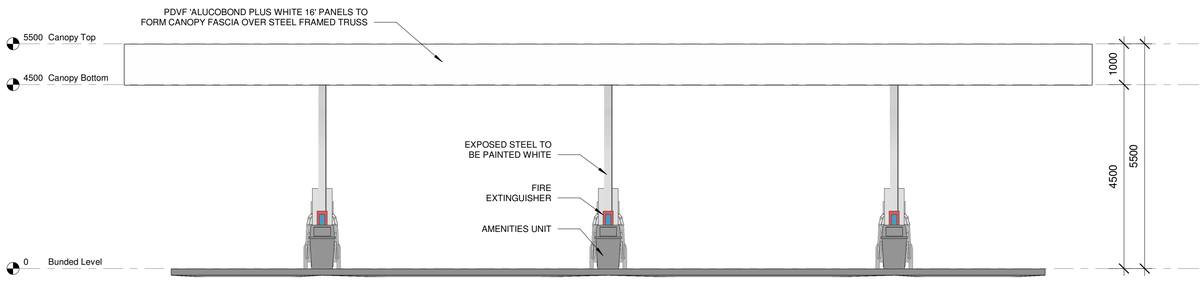


NORTH-WEST ELEVATION

1 : 75 (A1)



SOUTH-EAST ELEVATION

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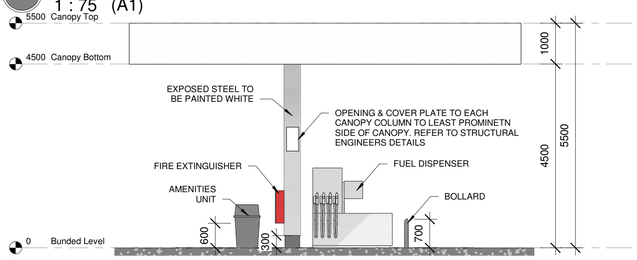

NORTH-EAST ELEVATION

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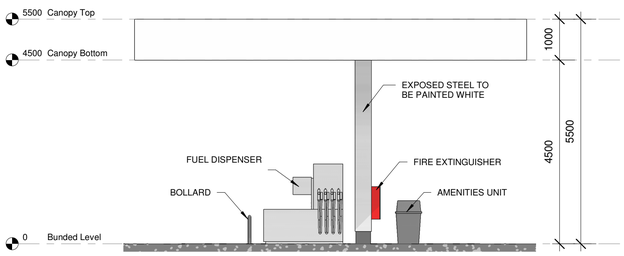

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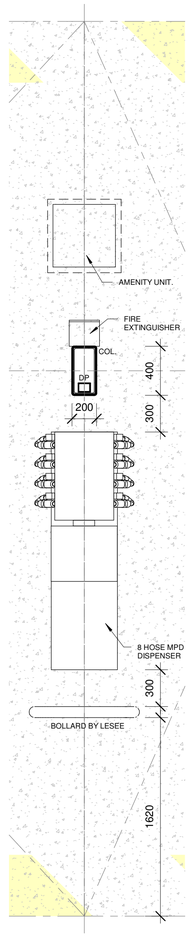
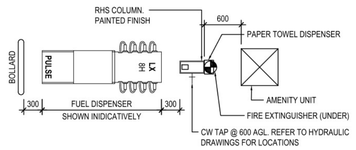


DISPENSER DETAIL

1 : 25 (A1)



SET-OUT DETAIL

1 : 50 (A1)

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MDT	Revision	08.09.20
MDT	Revision	27.08.20
MDT	Issued to Client	24.08.20

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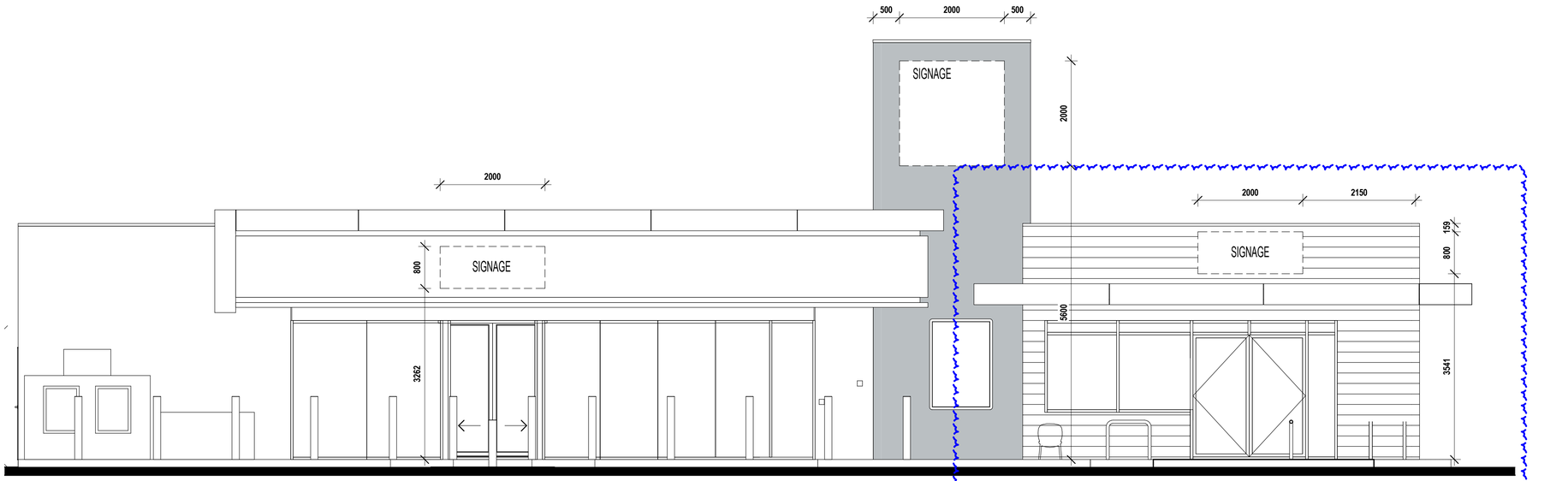
Suburb:	Mount Hutton
DP:	21206
Scale	As indicated
Drawn by	BSIVA
Checked by	WB
Sheet Size	A1

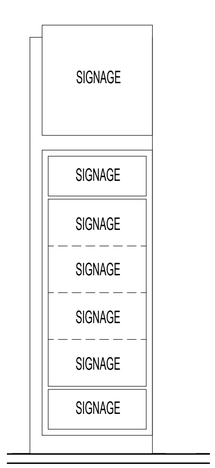
Drawing

CAR CANOPY FLOOR PLANS, ELEVATIONS AND DETAILS

Job No:	Issue:	No:
BC0203 4		**04**



Building Signage
1 : 50 (A1)



Pylon Signage
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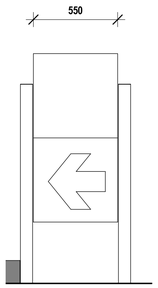
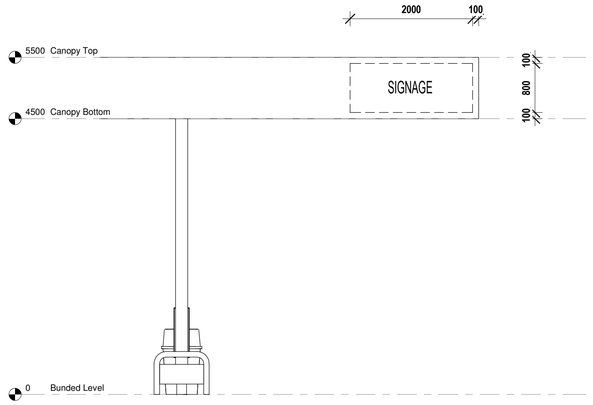


Direction Signage
1 : 20 (A1)



Canopy Signage
1 : 50 (A1)

Rev	Description	Date
7	Waiting Bay	02.03.21
4	Issued for DA	17.09.20
3	Revision	08.09.20
2	Revision	27.08.20

BROWN COMMERCIAL BUILDING
www.brownbuild.com.au
2 Elwell Close
Beresfield, NSW 2322
PO Box 596
East Maitland NSW 2323
Ph: (02)4966 0218

Client

Mt Hutton LF Pty Ltd

Project

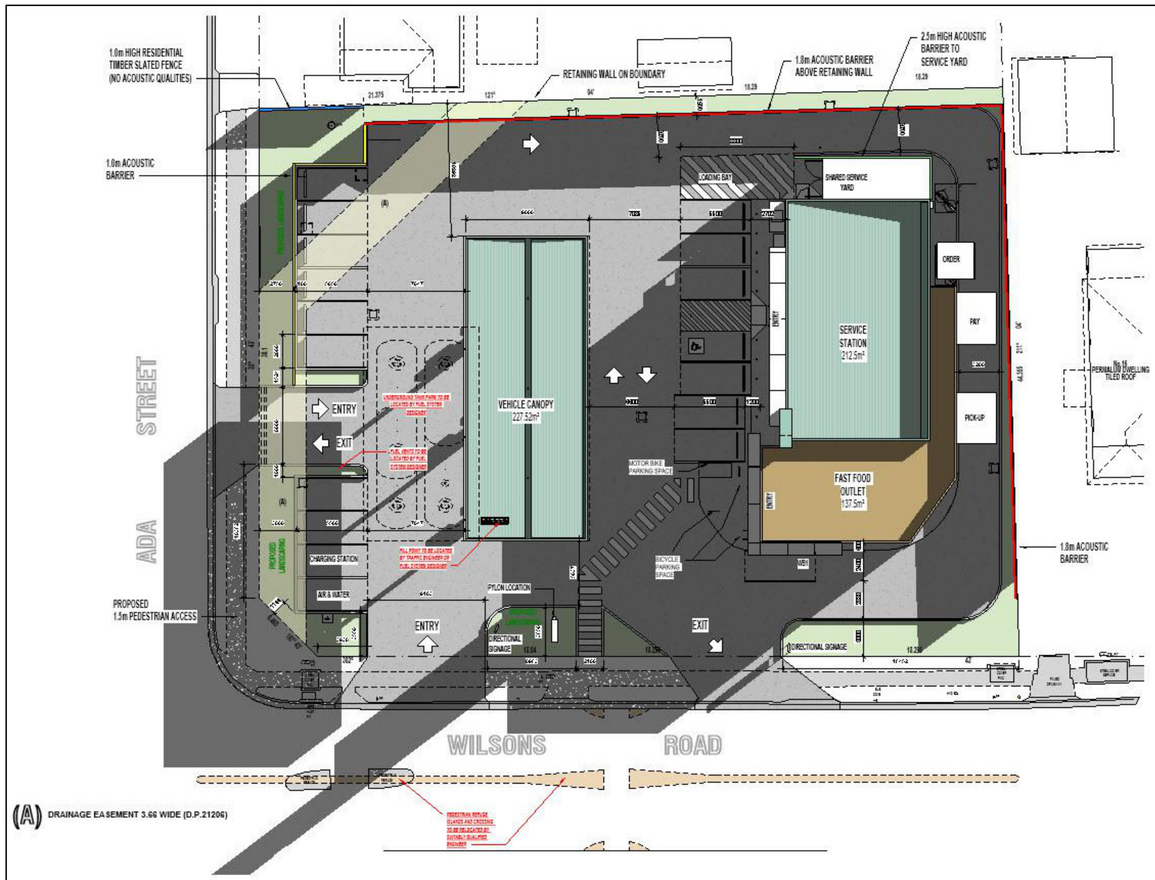
Service Station and Take Away Food

Location:	
Lot:	1-3
No:	10-14
Street:	Wilsons Road
Suburb:	Mount Hutton
DP:	21206
Scale	As indicated
Drawn by	
Checked by	
Sheet Size	A1

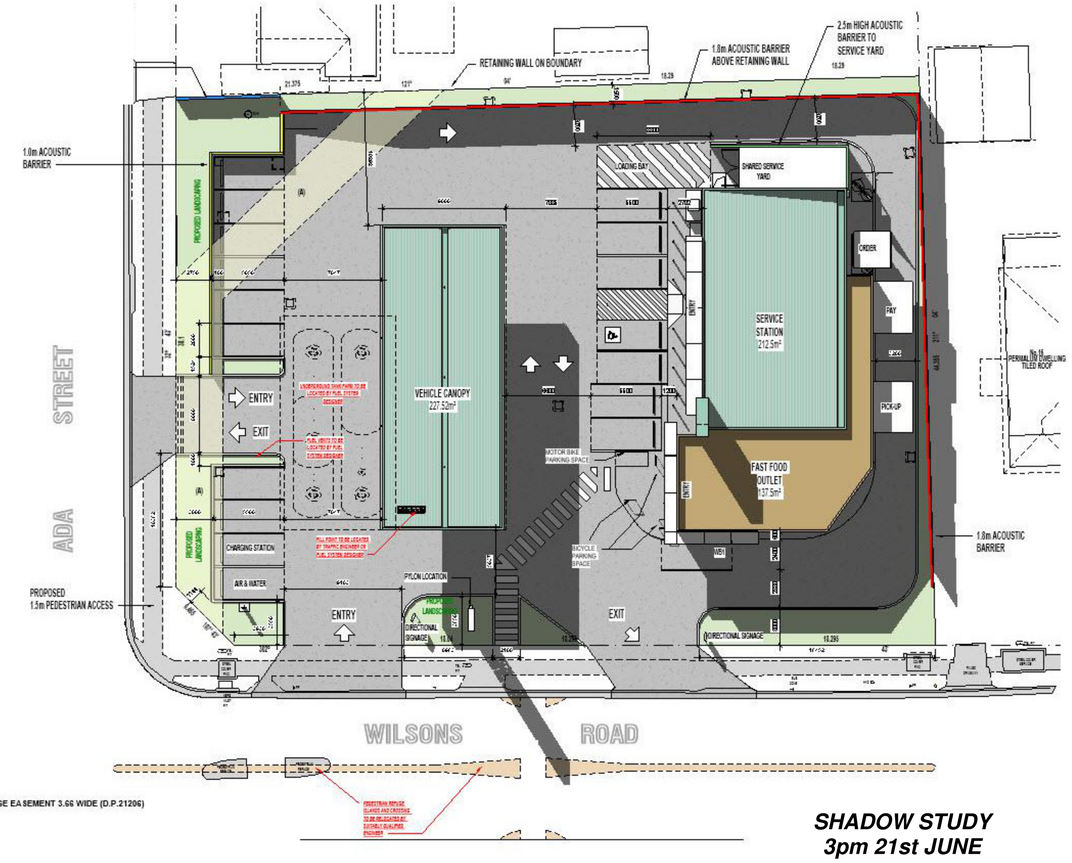
Drawing

SIGNAGE PLAN

Job No:	Issue:	No:
BC0203	7	**05**



SHADOW STUDY
9am 21st JUNE



SHADOW STUDY
3pm 21st JUNE

Rev	Description	Date
19	MB Space Rev	02.03.22
16	Fencing Rev	17.12.21
15	Driveway-Ped-Acoustic	17.12.21
14	Acoustic Rev	16.12.21
13	Landscape Rev	15.12.21
12	Fence Rev	22.10.21
8	Civil Revision	08.03.21
7	Waiting Bay	02.03.21
5	Revisions for DA	01.02.21

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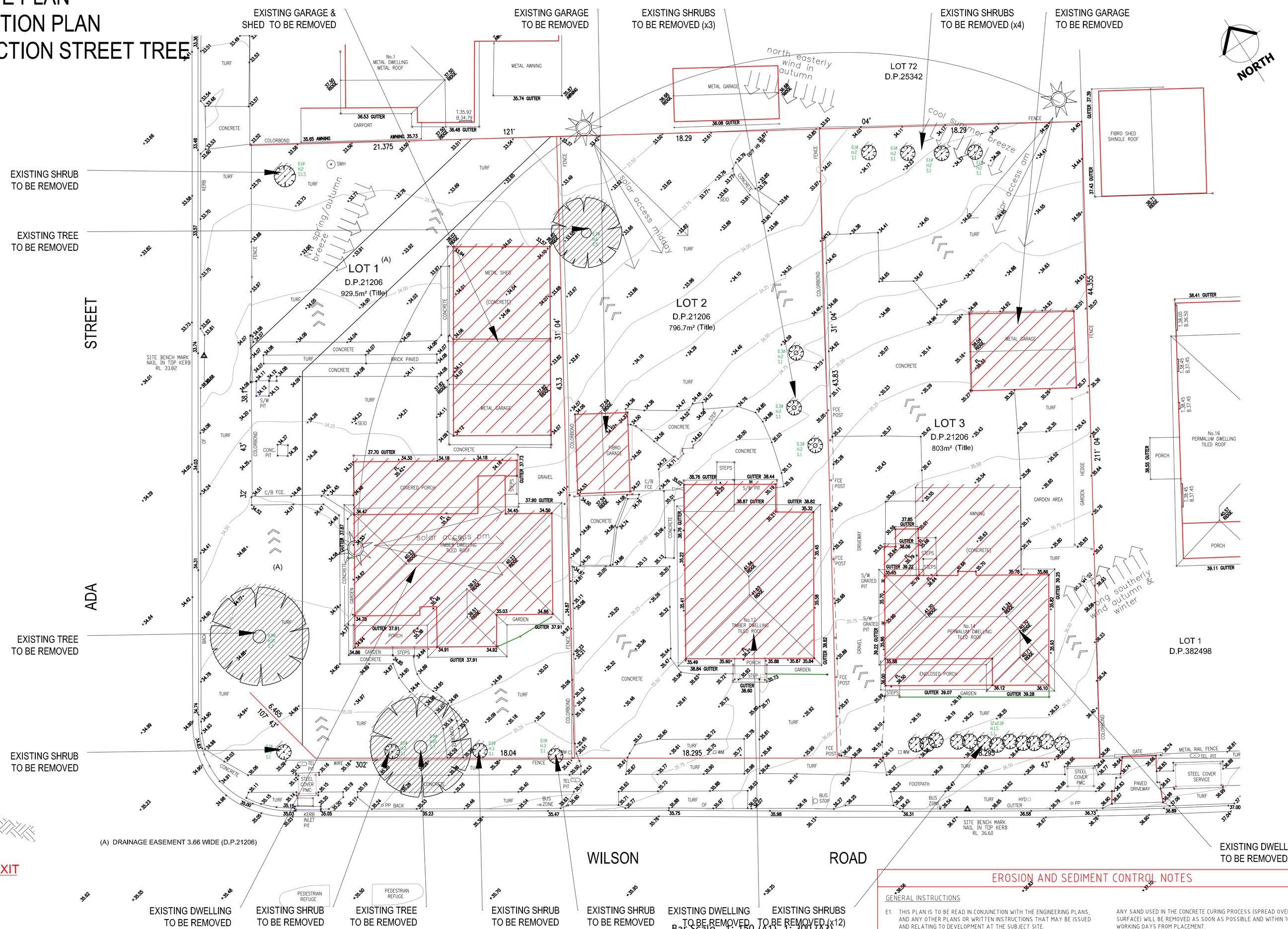
Scale	
Drawn by	
Checked by	
Sheet Size	A1

Drawing

SHADOW DIAGRAMS

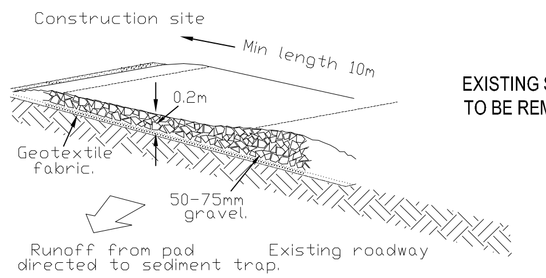
Job No:	Issue:	No:
BC020319		**06**

SHEET 1 OF 4 SITE ANALYSIS PLAN
SHEET 2 OF 4 LANDSCAPE PLAN
SHEET 3 OF 4 SPECIFICATION PLAN
SHEET 4 OF 4 CONSTRUCTION STREET TREE



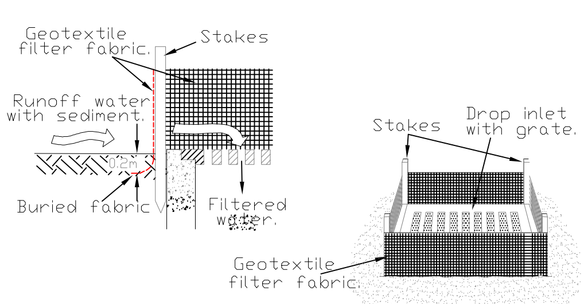
Bar Scale 1: 150 (A1), 1: 300 (A3)

0 1 2 3 4 5 6 7 8 9 10



TEMPORARY CONSTRUCTION EXIT

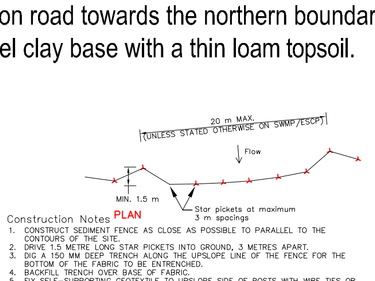
MAINTENANCE:
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH PREVENTS TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL GRAVEL AS CONDITIONS DEMAND AND REPAIR AND / OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS OF WAY MUST BE REMOVED



Geotextile Filter Fabric Drop Inlet Sediment Trap.

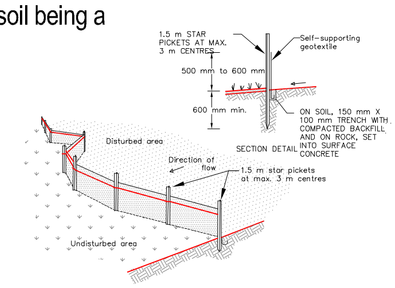
NOTES

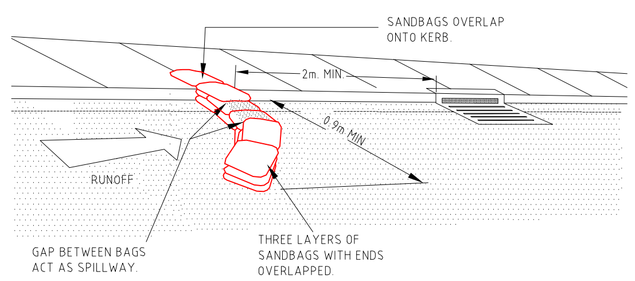
The site consists of 3 existing residential lots, with dwellings, garages, sheds and associated infrastructure to be removed . There are 3 trees & various shrubs also to be removed with compensatory planting provided. The drainage lines are from Wilson road towards the northern boundary with the soil being a gravel clay base with a thin loam topsoil.



Construction Notes
1. CONSTRUCT SEDIMENT FENCE AS CLOSE AS POSSIBLE TO PARALLEL TO THE CONTOUR OF THE LAND.
2. DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND, 3 METRES APART.
3. DIG A 150 MM DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
4. BACKFILL TRENCH OVER BASE OF FABRIC.
5. FIX SELF-SUPPORTING GEOTEXTILE TO UPSLOPE SIDE OF POSTS WITH WIRE TIES OR AS RECOMMENDED BY GEOTEXTILE MANUFACTURER.
6. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150 MM OVERLAP.

SEDIMENT CONTROL FENCE





SANDBAG KERB INLET SEDIMENT TRAP
NTS

EROSION AND SEDIMENT CONTROL NOTES

GENERAL INSTRUCTIONS

E1. THIS PLAN IS TO BE READ IN CONJUNCTION WITH THE ENGINEERING PLANS, AND ANY OTHER PLANS OR WRITTEN INSTRUCTIONS THAT MAY BE ISSUED AND RELATING TO DEVELOPMENT AT THE SUBJECT SITE.

E2. THE SITE SUPERINTENDENT WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS INSTRUCTED IN THIS SPECIFICATION

E3. ALL BUILDERS AND SUB-CONTRACTORS WILL BE INFORMED OF THEIR RESPONSIBILITIES IN MINIMISING THE POTENTIAL FOR SOIL EROSION AND POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS.

CONSTRUCTION SEQUENCE

E4. THE SOIL EROSION POTENTIAL ON THIS SITE SHALL BE MINIMISED. HENCE WORKS SHALL BE UNDERTAKEN IN THE FOLLOWING SEQUENCE :
(a) INSTALL SEDIMENT FENCES
(b) UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.

EROSION CONTROL

E5. DURING WINDY CONDITIONS, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.

E6. FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.

FENCING

E7. STOCKPILES WILL NOT BE LOCATED WITHIN 2 METRES OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS. WHERE THEY ARE BETWEEN 2 AND 5 METRES FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION TO DOWNSLOPE WATERS, E.G. THROUGH INSTALLATION OF SEDIMENT FENCING.

ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) WILL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.

WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE, I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.

TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.

OTHER MATTERS

ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.

RECEPTORS FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER ARE TO BE EMPTIED AS NECESSARY. DISPOSAL OF WASTE SHALL BE IN A MANNER APPROVED BY THE SITE SUPERINTENDENT.

SITE INSPECTION & MAINTENANCE

EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AFTER RAINFALL EVENTS TO ENSURE THAT THEY OPERATE EFFECTIVELY. REPAIR AND OR MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED.

DRAWING TO BE READ IN CONJUNCTION WITH THE ARCHITECTS-- STORMWATER-- ENGINEERS PLANS PLUS ASSOCIATED SHEETS ATTACHED

LEGEND

- BOUNDARY LINE
- ADJACENT BOUNDARY
- MINOR CONTOUR LINE
- 10 MAJOR CONTOUR LINE
- FENCE LINE
- TOP & TOE OF BANKS
- OHP OVERHEAD POWER LINE
- W UNDERGROUND WATER LINE (DBYD)
- T UNDERGROUND TELECOMMUNICATIONS LINE (DBYD)
- S UNDERGROUND SEWER LINE (DBYD)
- GAS UNDERGROUND GAS LINE (DBYD)
- BENCH MARK
- POWER POLE
- WM WATER METER
- LETTER BOX
- SS/10/0.6 spread diameter/approx height/trunk diameter
- PHOTOGRAPH LOCATION AND DIRECTION
- EXISTING TREE SHRUB TO BE RETAINED
- EXISTING TREE SHRUB TO BE REMOVED
- STRUCTURES TO BE REMOVED
- OVERLAND FLOW PATH
- PREVAILING WIND

I John A Kime have prepared this documentation and hold qualifications to meet the requirements of Lake Macquarie City Council for this category of development as outlined in LMCC DCP1 Part 2.7.2
I have familiarized myself with all sections of DCP1 and guidelines relevant to the landscape proposal for this development.
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Qualification: Dip. Of Hort. L/scape design
Institute : Kurri Kurri Tafe
Year of Graduation: 2002
Years of relevant post graduate work exp: 18yrs
MAILDM

LANDSCAPE ARCHITECT
CERTIFIED BY GARY EDWARDS RE-CATEGORY 3 DCP
Bachelor of Landscape Architecture & Certificate in Horticulture
PH 0407266255
SIGNATURE Gary Edwards

LANDSCAPE DESIGNER
JK's GARDEN CREATIONS
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John A. Kime
Mob. 0412582966
email.gardenflora704@gmail.com
Member AILDM
Diploma in Horticulture L/scape Dsn, Cert. Ag

DATE	BY	AMENDMENT
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25.3.21	JK	TO COUNCIL RFI'S
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20.12.21	MS	TO CHANGE OF LAYOUT SITE PLAN, ADJUST ACOUSTIC BARRIERS & PLANTING.
3.3.22	JK	SOFTEN WITH SHRUBS NTH SIDE GARDEN

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SERVICE STATION & TAKE AWAY FOOD
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MOUNT HUTTON

CLIENT
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ARCHITECT
BROWN COMMERCIAL BUILDERS
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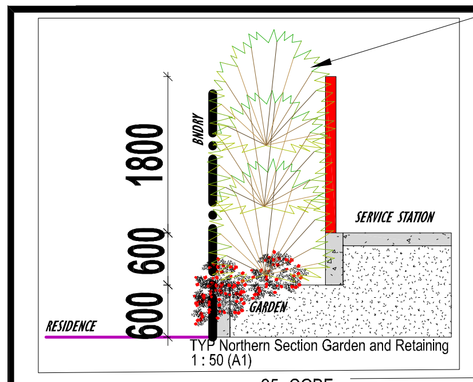
02 4966 0218
02 4028 6945
info@brownbuild.com.au

DRAWN JK	DATE 01/09/2020
SCALES 1:150 @ A1, 1:300 @ A3	CHECKED JK,GE
SHEET 1 OF 4 Site Analysis Plan	JOB No. GATT010920



TYP Northern Section Garden and Retaining
1 : 50 (A1)

PHOTINIA RED ROBIN TO SOFTEN BOUNDARY FENCE & RETAINING WALL WITH GAZANIA TOMENTOSUM TO SOFTEN RETAINING WALL & UNDER PHOTINIA

1.0m HIGH RESIDENTIAL TIMBER SLATED FENCE (NO ACOUSTIC QUALITIES)

45 PHOTINIA RED ROBIN TO SOFTEN OUTLOOK TO RETAINING WALL & FENCE WITH 45 GAZANIA TOMENTOSUM GROUNDCOVER TO FLOW OVER LOWER RETAINING WALL PLUS COLOUR UNDER PHOTINIA

RETAINING WALL ON BOUNDARY

1.8m ACOUSTIC BARRIER ABOVE RETAINING WALL

2.5m HIGH ACOUSTIC BARRIER TO SERVICE YARD

NORTH

1 CGBF
7 TTRI

25 CGBF
2 CE
4 CA
16 GRM
25 NOD
10 ROP
23 STT
9 VO

1.0m ACOUSTIC BARRIER

TREE PLACEMENT DUE TO EASEMENT

PROPOSED NEW STREET TREES
3 - 75 LTR TRISTANIOPSIS LAURINA 'LUSCIOUS' INSTALLED TO LMCC SPECIFICATIONS (LSD-PLA-01). WITH FINAL SELECTION TO BE CONFIRMED BY LMCC REPRESENTATIVE. LIAISE WITH LMCC PROJECT MANAGEMENT BY CONTRACTOR AT FIRST WITNESS POINT TO ENSURE SUBSURFACE SERVICES DO NOT CONFLICT WITH LMCC PLANTING SPECIFICATIONS. REFER TO SHEET 4 FOR DETAILS.

11 CGBF
1 CA
13 DMG
2 MP
49 ROP
19 STT

PROPOSED 1.5m PEDESTRIAN ACCESS

Passenger vehicle (5.2 m)

LOADING BAY

SHARED SERVICE YARD

EXTERNAL CONCRETE 1962m

SERVICE STATION 212.5m²

FAST FOOD OUTLET 137.5m²

ORDER

PAY

PICK-UP

ENTRY

EXIT

VEHICLE CANOPY 227.52m²

UNDERGROUND TANK FARM TO BE LOCATED BY FUEL SYSTEM DESIGNER

FUEL VENTS TO BE LOCATED BY FUEL SYSTEM DESIGNER

FILL POINT TO BE LOCATED BY TRAFFIC ENGINEER OR FUEL SYSTEM DESIGNER

CHARGING STATION

AIR & WATER

PYLON LOCATION

ENTRY

DIRECTIONAL SIGNAGE

No.16 PERMALUM DWELLING TILED ROOF

1.8m ACOUSTIC BARRIER

33 AAM
10 CGBF
13 DCTV
23 DMG
3 MP
19 NOD
1 SL
1 TLL
13 TTRI
194 TVV

PROPOSED NEW STREET TREES
1 - 75 LTR CUPANIOPSIS ANACARDIOIDES INSTALLED TO LMCC SPECIFICATIONS (LSD-PLA-01). WITH FINAL SELECTION TO BE CONFIRMED BY LMCC REPRESENTATIVE. LIAISE WITH LMCC PROJECT MANAGEMENT BY CONTRACTOR AT FIRST WITNESS POINT TO ENSURE SUBSURFACE SERVICES DO NOT CONFLICT WITH LMCC PLANTING SPECIFICATIONS. REFER TO SHEET 4 FOR DETAILS.

16 AAM
9 DMG
31 TTRI

8 AAM
5 DMG
1 NOB
3 RBL

(A) DRAINAGE EASEMENT 3.66 WIDE (D.P.21206)

PEDESTRIAN REFUGE ISLANDS AND CROSSING TO BE RELOCATED BY SUITABLY QUALIFIED ENGINEER

STREET ADA

WILSONS ROAD

Bar Scale 1: 150 (A1), 1: 300 (A3)

0 1 2 3 4 5 6 7 8 9 10

PLANT LEGEND

- AAM ACMENA ALLYN MAGIC
- CGBF CALLISTEMON GREAT BALLS OF FIRE
- CE CALLISTEMON ENDEAVOUR
- CA CUPANIOPSIS ANACARDIOIDES
- DCTV DIANELLA CAERULEA CTV
- DMG DURANTA MINI GOLD
- GT GAZANIA TOMENTOSUM
- GRM GREVILLEA ROYAL MANTLE
- MP MYOPORUM PARVIFOLIUM
- NOD NERIUM OLEANDER DWARF
- PRR PHOTINIA RED ROBIN
- ROP RAPHIOLEPSIS ORIENTAL PEARL
- RBL ROSMARINUS BLUE LAGOON
- SL SYZYGIUM LEUHMANNII
- STT SYZYGIUM TINY TREV
- TLL TRISTANIOPSIS LAURINA LUCSIOUS
- TTRI TRACHELOSPERMUM TRICOLOUR
- TVV TULBAGHIA VIOLACEA 'VAREIGATA'
- VO VIBURNUM ODORATISSIMUM

PLANT SCHEDULE

TREES, SHRUBS, GRASSES & GROUNDCOVERS

ID	Botanical Name	Common Name	Qty	Pot Size mm/ltr	Mature Size W x H mtrs
AAM	Acmena smithii 'Allyn Magic'	Dwarf lilly pilly	57	200mm	1 x 1m
CGBF	Callistemon 'Great Balls of Fire'	Dwarf white bottlebrush	47	200mm	1.5x1.5m
CE	Callistemon 'Endeavour'	Red bottlebrush	2	200mm	3 x 5m
CA	Cupaniopsis anacardioides	Tuckeroo	5	45ltr	8 x 8m
CA	Cupaniopsis anacardioides	Tuckeroo	1	75ltr	8 x 8m
DCTV	Dianella caerula ctvr	Cultivar flax lillies	13	200mm	.7 x .7m
DMG	Duranta mini gold		50	200mm	1 x 1m
GT	Gazania tomentosum		45	150mm	G/cover
GRM	Grevillea 'Royal Mantle'		16	150mm	G/cover
MP	Myoporum parvifolium	Creeping boobialla	5	150mm	G/cover
NOD	Nerium oleander dwarf		45	200mm	1.5x1.5m
PRR	Photinia red robin		45	200mm	3 x 5m
ROP	Raphiolepsis oriental pearl		59	200mm	1 x 1m
RBL	Rosmarinus blue lagoon	Dwarf rosemary	3	150mm	1 x .7m
SL	Syzygium luehmannii	Weeping lilly pilly	1	45ltr	6 x 9m
STT	Syzygium tiny trev	Dwarf lilly pilly	30	200mm	1.5x1.5m
TTRI	Trachelospermum tricolour	Dwarf star jasmine	47	150mm	Clbr.G/cover
TLL	Tristaniopsis laurina 'Luscious'	Water gum	1	45ltr	5 x 9m
TLL	Tristaniopsis laurina 'Luscious'	Water gum	3	75ltr	5 x 9m
TVV	Tulbaghia violacea variegata	Ornamental Variegated society garlic	194	150mm	.3x.3m
VO	Viburnum odoratissimma		9	200mm	3 x 5m

ALL HEIGHTS ARE AVERAGE DEPENDENT ON SOIL, CLIMATE, MAINTENANCE, ETC.

DRAWING TO BE READ IN CONJUNCTION WITH THE ARCHITECTS-- STORMWATER-- ENGINEERS PLANS PLUS ASSOCIATED SHEETS ATTACHED

LEGEND

- CONCRETE PATHS & DRIVEWAY
- TURF - REFER TO SHEET 3 FOR DETAILS
- 100mm COMPACTED RHYOLITE TO SHADED AREAS - REFER TO SHEET 3 FOR DETAILS
- × 26.00 DENOTES DESIGN SPOT LEVELS
- RWH DENOTES RETAINING WALL
- TO ENGINEERS DETAILS
- 2.8M HIGH ACOUSTIC BOUNDARY FENCE

DIAL 1100 BEFORE YOU DIG

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info@brownbuild.com.au

DRAWN	DATE
JK	01/09/2020
SCALES 1:150 @ A1, 1:300 @ A3	CHECKED JK,GE
SHEET 2 OF 4 Landscape Plan	JOB No. GATT010920

INITIAL PREPARATION

Verify all dimensions on site prior to commencement, locate all underground services and ensure no damage occurs to them throughout the contract. Comply with the requirements of the Council site guidelines in reference to erosion and sediment control regulations and other environmental controls to contain all within confines of the site. Spray with approved herbicide weed killer to all proposed lawn and garden areas to manufactures directions. Spray all weeds before commencement of any site works are carried and throughout the contract so as to suppress any weeds that may arise. Source all plants before start of job so the time factor to purchase from species list, will be true to plant schedule. The trees and shrubs recommended may sometimes be difficult to source due to times of year, weather, disease etc, this being the case, please inform early so arrangements to substitute can be made. Excess soils and contaminated soil are to removed within the guidelines of the council requirements to approved sites.

SOIL PREPARATION

Cultivate to the minimum depth of 200mm in all garden areas and 100mm depth in all lawn areas; add a clay breaker to all garden areas, before the addition of garden soil is added. In all areas where fill is required, gain required levels using a premium soil mix. Where excavation is required as with clay excavate as required to allow for addition of 200-400mm depth of premium garden soil to garden areas and 100-300mm depth of topsoil to lawn areas. Undertake all required action to ensure that no root balls of proposed plants sit in clay wells and that all garden and lawn areas drain satisfactorily. It is the contractor's responsibility to ensure the end result of the project is that all lawn and garden areas drain sufficiently (both surface and subsurface), are at required finished levels and have sufficient soil depths to enable lawn and plants to thrive and grow. Soil levels are to allow for the addition of turf and mulches to specified requirements.

GARDEN EDGING

EDGING: Timber edging shall be located to all planter bed edges where meeting new or existing turfed areas. Use 38x150mm treated pine edging with 50x50 pegs at 1200 centres finished 30mm below top of edging.

PLANTING

Purchase plants from an approved nursery that supplies plants that are true to type and species, healthy and able to store at nursery to maintain vigor before planting. Plant within 24hrs of plants being delivered. Set out plants as indicated on plan. Plant holes shall be dug approximately twice the width and 100mm deeper than the plant root balls that they are to receive. Add fertilizer, followed by 100mm of garden soil shall be placed into the base of hole and lightly consolidated. Remove plant from container install and backfill with garden soil and firmed into place. Base of stem shall finish flush with finished soil level. Thoroughly water all plants on first planting to soak soil of plant and surrounding soil so as to allow roots to adjust, do not allow drying out. Water regular over the first 3-4 weeks.

FERTILISING

Use slow release fertilizers such as osmocote and or agriform tablets on all plants.

MULCHING

Install 100mm minimum of Forest mulch as a mulch over all gardens. Shaded areas mulch with 10-25mm pebble mulch with weedmat under.

GRAVEL AREAS

- Consolidated crushed rhyolite, 100mm thick, over a compacted road base. Contain areas between gardens & gravel with timber edging.

RETAINING WALLS

Erection of masonry block retaining walls treated timber retaining walls to be as per retaining wall specification guidelines . All retaining walls and footings to remain within the confines of boundary.

TURF

Prepare for, level and lay cultivated Buffalo turf to all areas nominated on the plan as being lawn. To be layed within 24 hrs of delivery on site, making sure all areas are level for drainage, garden edging and paths.

COMPLETION

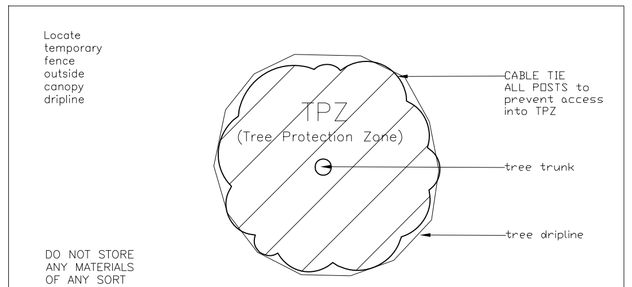
Prior to practical completion removal from site all unwanted debris occurring from work. Satisfy council that all landscaping work has been undertaken in strict accordance with council's landscape codes and guide lines.

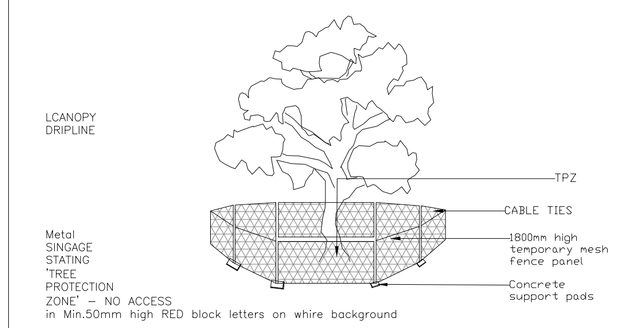
At the completion of landscape works and prior to the issue of the Certificate of Practical Completion.

Carry out the following during the maintenance period(determined by Builder). These works shall include but not limited to watering, weeding, fertilizing, pest and disease control, returfing, staking and tying, replanting, cultivation, pruning, aerating, renovation, top dressing and the like.

EXISTING TREES

The existing trees to be retained on site are to be protected by surrounding with a 1.8m high chainmesh fence 3.00m from the base of the tree. This fence is to be erected prior to works commencing on site and is to be retained until all building works are completed. The enclosed area is to remain free of materials, machinery, vehicles or site sheds. With this preparation is to protect the existing tree and its critical roots from mechanical damage, compaction or any other adverse impacts resulting from construction activity and allowing the trees to grow the optimum growth once all works have been finalized.



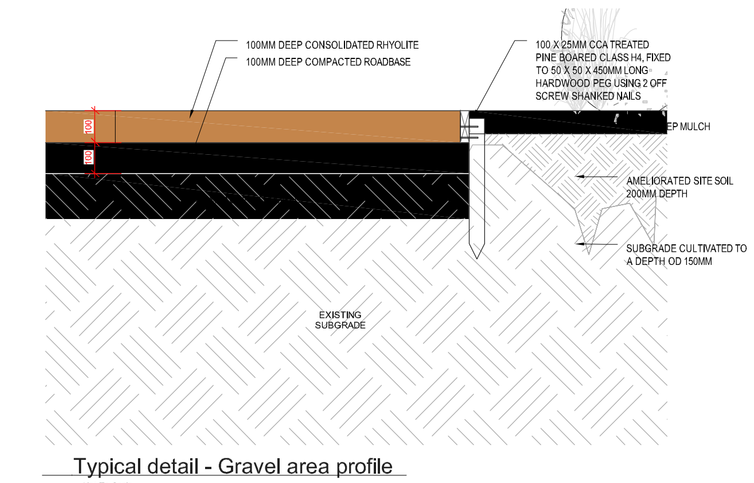


Tree Protection Zone

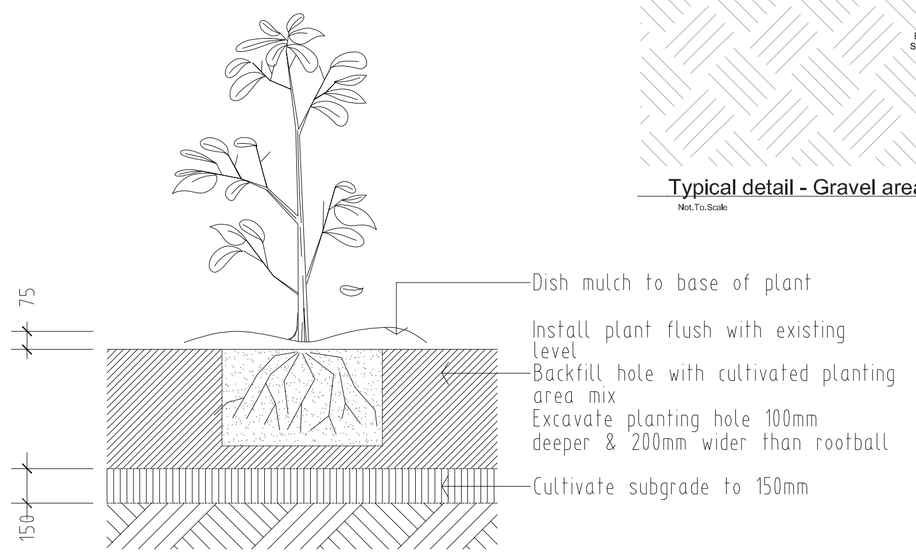
DETAIL 3

TREE PROTECTION ZONE (TPZ) SPECIFICATION

1. TPZ identified by temporary fencing & signage
2. Temporary fencing:
   – 1800mm high mesh panels with movable concrete footings (post are not to be buried into the ground to prevent root damage).
   – TPZ fence to be located minimum 3.0m from trunk of tree where possible.
   – Fence to be continuous with no gates or openings.
   – The joins in the fence should be secured in such a way that ensures opening and entry is restricted.
   – TPZ fencing is to be maintained in good order and kept standing and secure.
3. Do not store any materials or equipment within protected area.
4. Do not excavate or build up soil within TPZ.
5. Water trees adequately on a weekly basis, depending on rainfall and weather conditions.

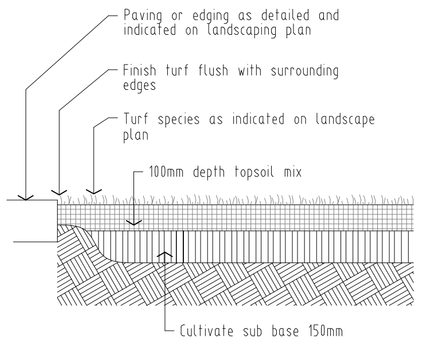


Typical detail - Gravel area profile
Not.To.Scale

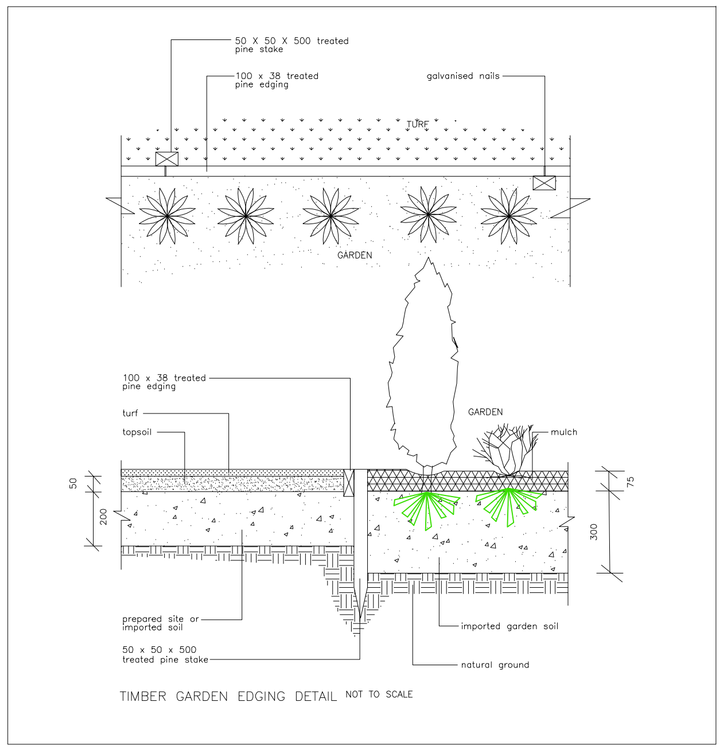


Planting in garden beds Detail. Not.To.Scale.

DIAL 1100 BEFORE YOU DIG

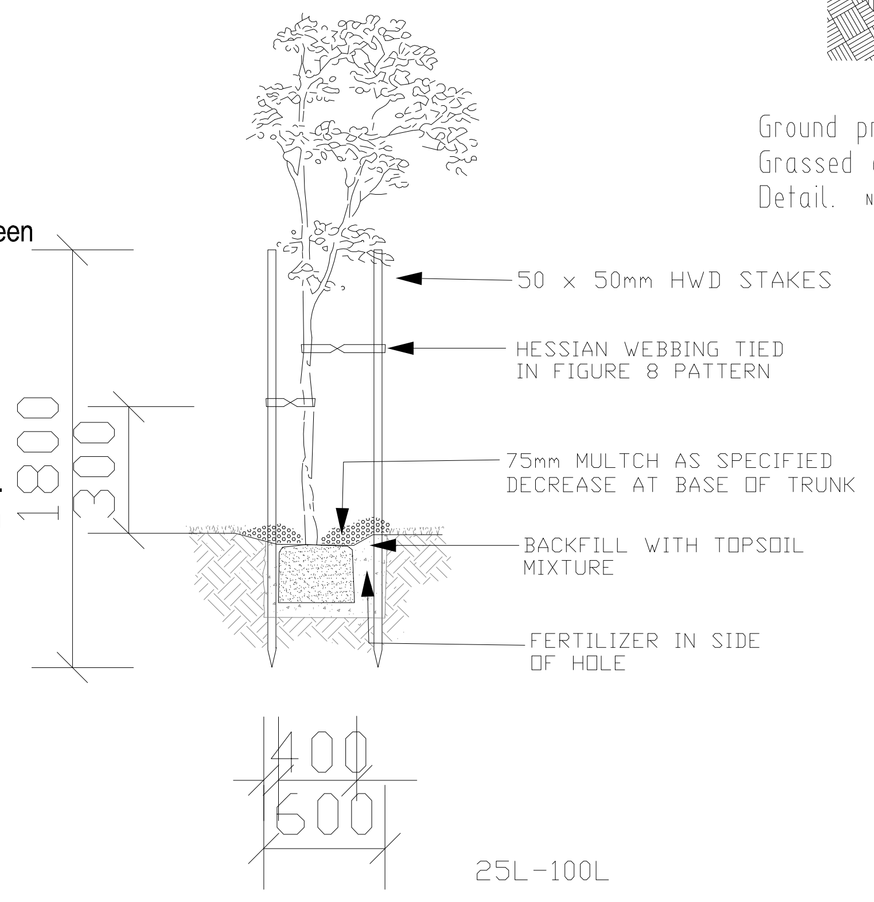


Ground preparation
Grassed area: turf using imported topsoil
Detail. Not.To.Scale.



TIMBER GARDEN EDGING DETAIL NOT TO SCALE

TREES STAKE DIAGRAM



PLANT SCHEDULE

TREES, SHRUBS, GRASSES & GROUNDCOVERS

ID	Botanical Name	Common Name	Qty	Pot Size mm/ltr	Mature Size W x H mtrs
AAM	Acmena smithii 'Allyn Magic'	Dwarf lilly pilly	57	200mm	1 x 1m
CGBF	Callistemon 'Great Balls of Fire'	Dwarf white bottlebrush	47	200mm	1.5x1.5m
CE	Callistemon 'Endeavour'	Red bottlebrush	2	200mm	3 x 5m
CA	Cupaniopsis anacardioides	Tuckeroo	5	45ltr	8 x 8m
CA	Cupaniopsis anacardioides	Tuckeroo	1	75ltr	8 x 8m
DCTV	Dianella caerula ctvr	Cultivar flax lillies	13	200mm	.7 x .7m
DMG	Duranta mini gold		50	200mm	1 x 1m
GT	Gazania tomentosum		45	150mm	G/cover
GRM	Grevillea 'Royal Mantle'		16	150mm	G/cover
MP	Myoporum parvifolium	Creeping boobialla	5	150mm	G/cover
NOD	Nerium oleander dwarf		45	200mm	1.5x1.5m
PRR	Photinia red robin		45	200mm	3 x 5m
ROP	Raphiolepsis oriental pearl		59	200mm	1 x 1m
RBL	Rosmarinus blue lagoon	Dwarf rosemary	3	150mm	1 x .7m
SL	Syzygium luehmannii	Weeping lilly pilly	1	45ltr	6 x 9m
STT	Syzygium tiny trev	Dwarf lilly pilly	30	200mm	1.5x1.5m
TTRI	Trachelospermum tricolour	Dwarf star jasmine	47	150mm	Clbr.G/cover
TLL	Tristaniopsis laurina 'Luscious'	Water gum	1	45ltr	5 x 9m
TLL	Tristaniopsis laurina 'Luscious'	Water gum	3	75ltr	5 x 9m
TVV	Tulbaghia violacea variegata	Ornamental Variegated society garlic	194	150mm	.3x.3m
VO	Viburnum odoratissimma		9	200mm	3 x 5m

ALL HEIGHTS ARE AVERAGE DEPENDENT ON SOIL, CLIMATE, MAINTENANCE, ETC.

DRAWING TO BE READ IN CONJUNCTION WITH THE ARCHITECTS-- STORMWATER-- ENGINEERS PLANS PLUS ASSOCIATED SHEETS ATTACHED

I John A Kime have prepared this documentation and hold qualifications to meet the requirements of Lake Macquarie City Council for this category of development as outlined in LMCC DCP1 Part 2.7.2
I have familiarized myself with all sections of DCP1 and guidelines relevant to the landscape proposal for this development.
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Institute : Kurri Kurri Tafe
Year of Graduation: 2002
Years of relevant post graduate work exp: 18yrs
MAILDM

LANDSCAPE ARCHITECT
CERTIFIED BY GARY EDWARDS RE–CATEGORY 3 DCP
Bachelor of Landscape Architecture & Certificate in Horticulture
PH 0407266255
SIGNATURE Gary Edwards

DATE	BY	AMENDMENT
18.9.20	MS	ADJUST STREET TREE ON WILSON STREET.
25.3.21	JK	TO COUNCIL RFI'S
11.4.21	JK	TO CHANGE OF LAYOUT SITE PLAN
20.12.21	MS	TO CHANGE OF LAYOUT SITE PLAN, ADJUST ACOUSTIC BARRIERS & PLANTING.
3.3.22	JK	SOFTEN WITH SHRUBS NTH SIDE GARDEN

LANDSCAPE DESIGNER
JK's GARDEN CREATIONS
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SERVICE STATION & TAKE AWAY FOOD
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10-14 WILSON ROAD
MOUNT HUTTON

CLIENT
Mt Hutton LF Pty Ltd

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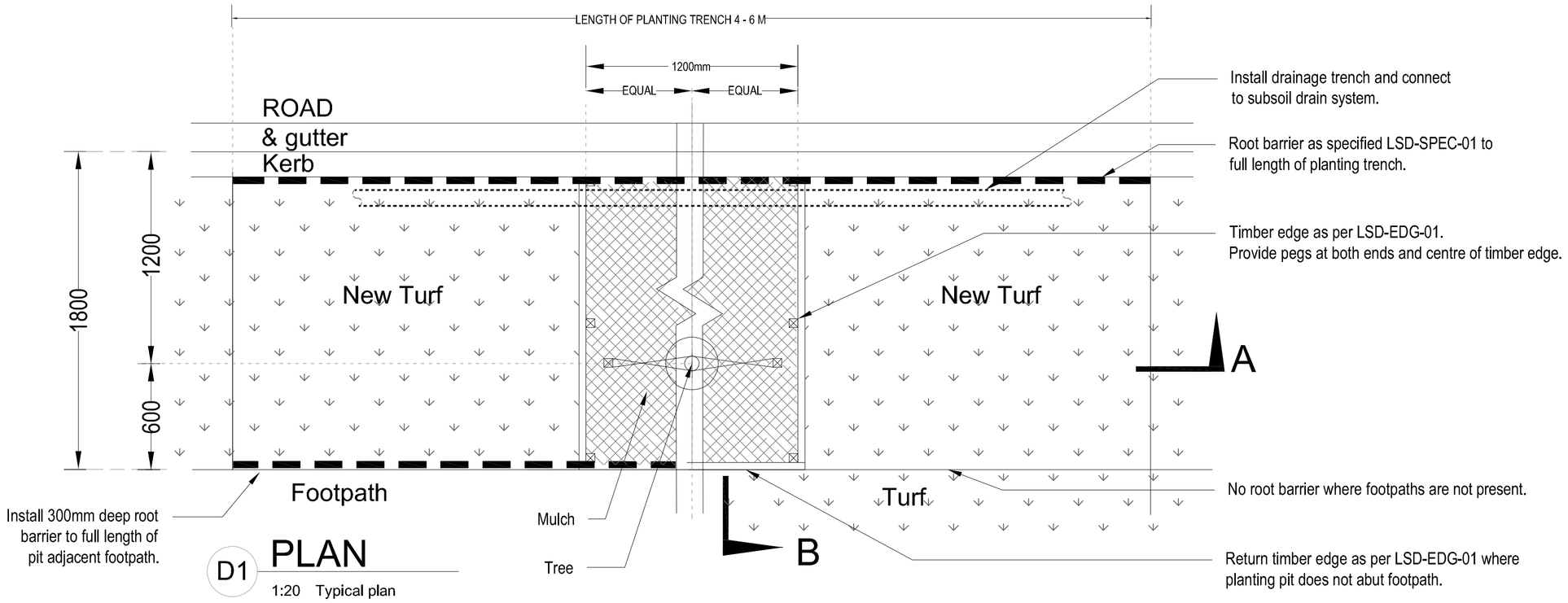
02 4028 6945
info@brownbuild.com.au

DRAWN JK	DATE 01/09/2020
SCALES	CHECKED JK,GE
SHEET 3 OF 4 Specification Plan	JOB No. GATT010920

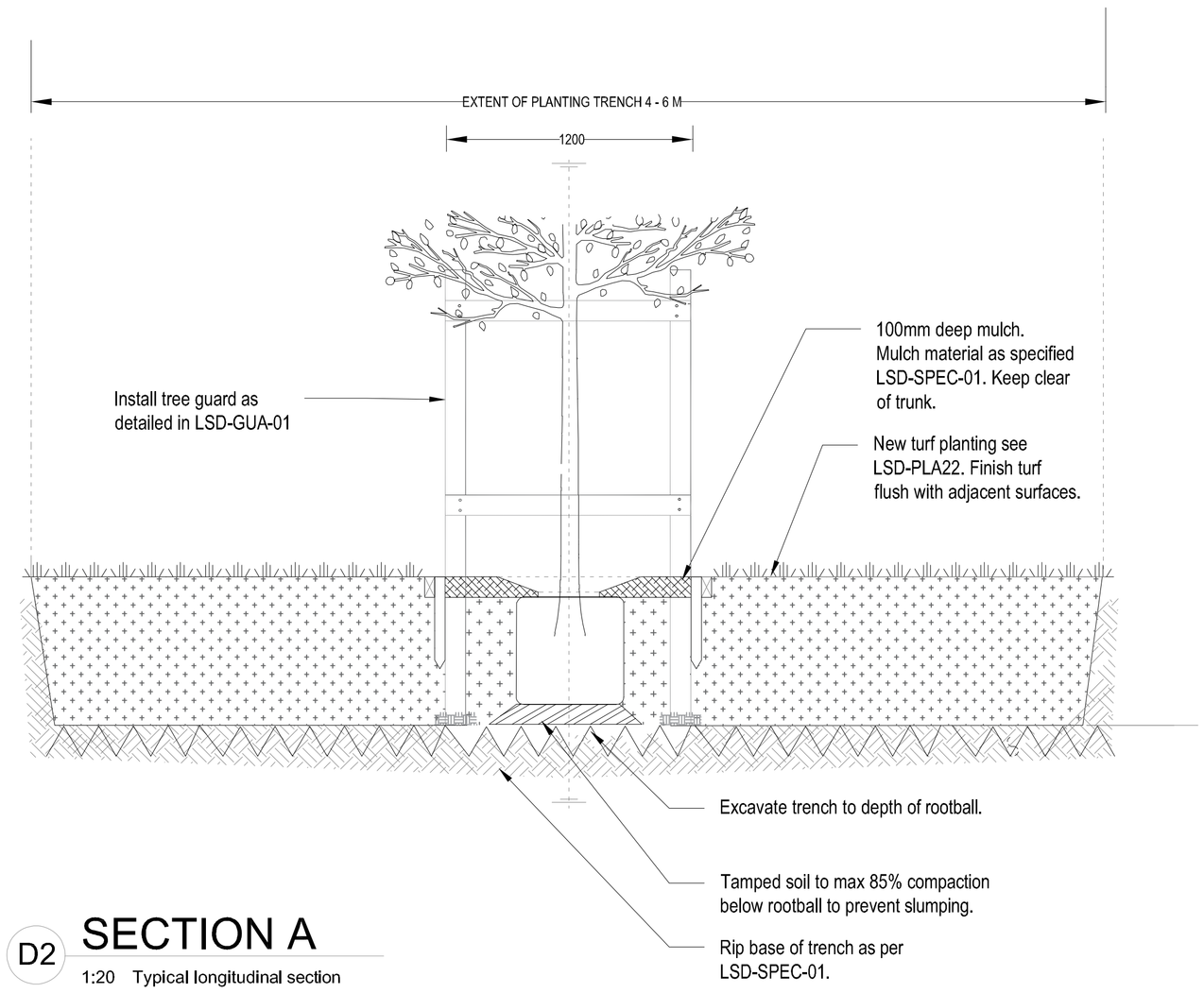


D1 **PLAN**

1:20 Typical plan

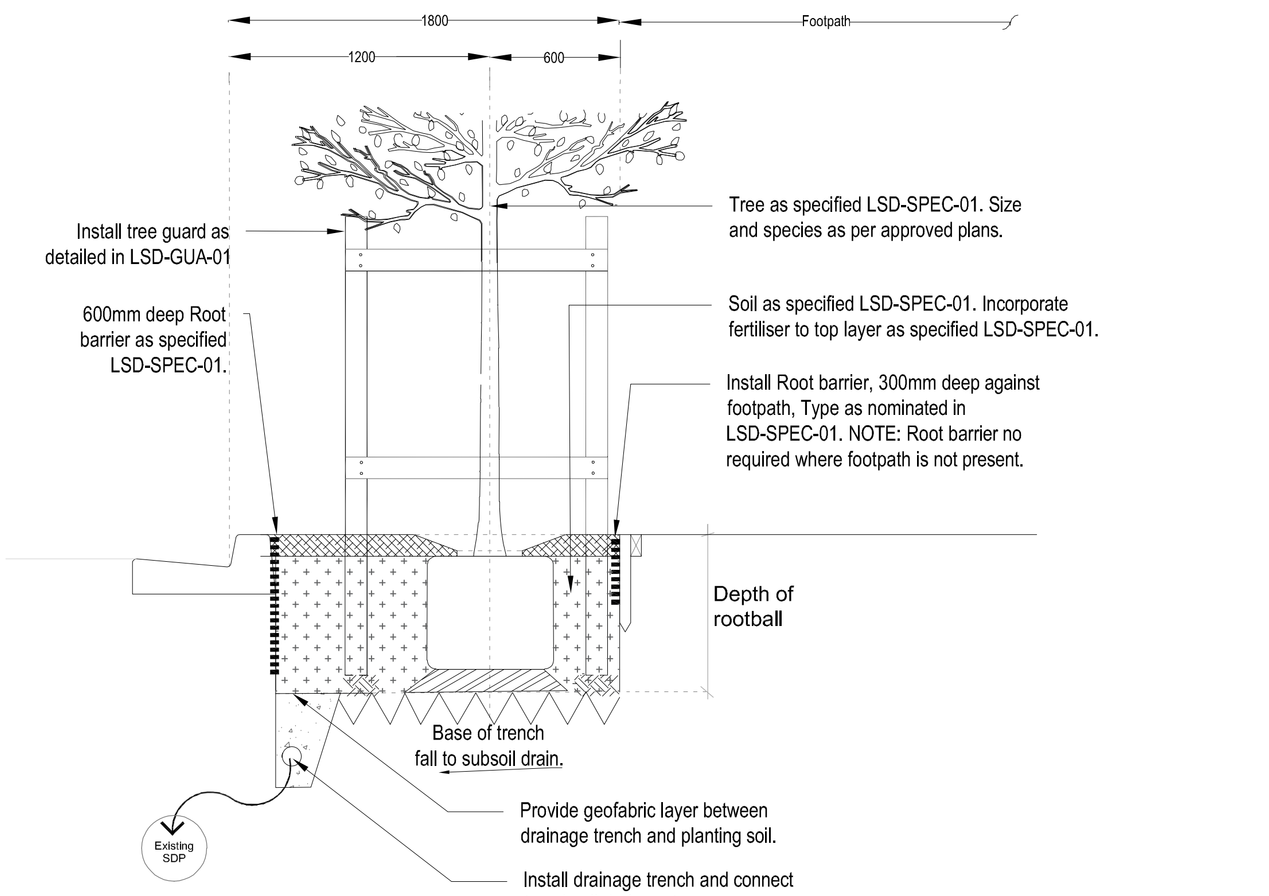
NOTES:

- Tree supply in accordance with AS2303 - refer to LSD-SPEC-01 for further detail.
- Tree species substitution requires written consent from LMCC.
- Comply with all relevant Australian Standards.
- Obtain DBYD drawings prior to starting work.
- Ground truth all possible conflicts with underground and overhead services and structures prior to commencement of works.
- Minimum tree installation size is 75L unless indicated in Conditions of Consent.



D2 **SECTION A**

1:20 Typical longitudinal section



D3 **SECTION B**

1:20 Typical cross section

PLANTING TREE PIT
WITH TREE GUARD
(WITH FOOTPATHS)
LSD-PLA-01

Street Trees - General Notes

- All trees to be minimum 75 L pot size.
- All trees must conform to Australian Standard (AS2303-2015) 'Guide to Specifying Trees - Assessment of Tree Quality'.
- Provide assessment of conformance to Australian Standard (AS2303-2015) 'Guide to Specifying Trees - Assessment of Tree Quality' from supplier.
- All stakes & hessian ties to be removed at the end of landscape contractors maintenance period.
- Install root barrier street equal to Arborgreen ReRoute 600 linear root barrier. Top of root barrier to be flush with surrounding soil, to be covered with mulch.
- All timber in contract with ground to be Class 1 durability hardwood or equivalent H4 treated pine.
- Where possible, maximise the space available for the tree root zone by coordinating footpath locations to be closer to the property boundary and further from the kerb or eliminate for minor local roads where pedestrians can walk safely on the road.
- Do not locate trees within 4.0m of street lights or where the mature canopy may interfere with lighting performance.
- Do not locate trees within 2.5m of stormwater kerb inlet pits.

Associated Witness & Hold Points

- All landscape works as approved shall be coordinated with Council's Project manager during the construction period.
- Contact Councils Project Manager (02 4921 0333) at the following hold witness points:
  - Setout of tree pits (witness point).
  - Excavated of tree pits with root barrier and sub-surface drainage installed in accordance with Council's Landscape Technical Guidelines (hold point).
  - Evidence of all associated imported topsoil for street tree planting in accordance with AS4419-2003 to provide to Council's Project Officer (hold point).
  - Tree delivery prior to installation (hold print). Note: if desired, arrangements may be made to inspect trees prior to delivery to assist in avoiding rejection due to poor quality (NB: inspection will still need to be required on site prior to installation). (hold print)
  - Commencement of tree planting (witness point).
  - Completion of tree planting, including installation of any guard/gates in accordance with Council's Landscape Technical Guidelines (witness point).
  - Installation of each layer/horizon of growing medium (witness points).

Submissions

- Submit the following certificates to Council's Project Manager (02 4921 0333) at the following times:
  - Assessment from the supply nursery of horticultural contractors Indicating compliance with Australian Standard (AS2303-2015) 'Guide to Specifying Trees - Assessment pf Tree Quality' requirments including a checklist of key points. Supply to Council's and seek approval prior to planting.
  - Certificate of compliance from the soil supplier providing laboratory testing to demonstrate compliance with the application for each type of soil.

Maintenance & Handover

- Maintenance of a period of 52 weeks shall be carried out after the submission of the Practical Completion Report and is to include the Public Domain.
- Satisfy council that all landscaping work has been undertaken in strict accordance with council's landscape codes and guidelines.
- At the completion of landscape works and prior to the issue of the Certificate of Practical Completion two reports are required:
  1. During the 26 weeks of maintenance - prior to issue of the Landscape Establishment Report.
  2. During the 52 weeks of maintenance - prior to issue of final Landscape Establishment report and handover to Council
- A Landscape Establishment Report is to be submitted to the Principal Certifying Authority at 52 weeks after the date of Practical Completion.
- This report shall state the actual maintenance carried out on site, including maintenance records such as site work report sheets, diary entries or log books which shows frequency of watering, weeding, mulching, personnel and any other remediation or rectification works carried out.
- Carry out the following during the maintenance period (determined by Builder). These works shall include but not limited to watering, weeding, fertilizing, pest and disease control, re-turfing, staking and tying, replanting, cultivation, pruning, aerating, renovation, top dressing and the like.

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LANDSCAPE ARCHITECT
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SIGNATURE Gary Edwards

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3.3.22	JK	SOFTEN WITH SHRUBS NTH SIDE GARDEN

LANDSCAPE DESIGNER
JK's GARDEN CREATIONS
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Mob. 0412582966
email.gardenflora704@gmail.com
Member AILDM
Diploma in Horticulture L/scape Dsn, Cert. Ag

SITE ADDRESS
SERVICE STATION & TAKE AWAY FOOD
LOT 1-3, DP 21206
10-14 WILSON ROAD
MOUNT HUTTON

CLIENT
Mt Hutton LF Pty Ltd

ARCHITECT
BROWN BUILD
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P.O.Box 596, East Maitland, NSW 2323
02 4966 0218
02 4028 6945
info@brownbuild.com.au

DRAWN JK	DATE 01/09/2020
SCALES 1:30 @ A1 1:60 @ A3	CHECKED JK,GE
SHEET 4 OF 4 CONSTRUCTION STREET TREE	JOB No. GATT010920

PROPOSED SERVICE STATION

10-14 Wilsons Road, Mount Hutton

CONCEPT STORMWATER / CIVIL WORKS

GENERAL NOTES

G1. THE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL DRAWINGS AND SPECIFICATIONS AND OTHER WRITTEN INSTRUCTIONS THAT MAY BE ISSUED.
G2. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING FROM THE DRAWINGS. REFER ARCHITECTS DRAWINGS FOR ALL DIMENSIONS.
G3. REFER ANY DISCREPANCY TO THE ENGINEER/ARCHITECT.
G4. MATERIALS AND WORKMANSHIP SHALL COMPLY WITH THE APPROPRIATE SAA SPECIFICATIONS OR CODE AND WITH THE REQUIREMENTS OF THE RELEVANT LOCAL AUTHORITY.
G5. THE ALIGNMENT AND LEVEL OF ALL SERVICES SHOWN ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL CONFIRM THE POSITION AND LEVEL OF ALL SERVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY DAMAGE TO SERVICES SHALL BE RECTIFIED AT THE CONTRACTORS EXPENSE.
G6. NO WORKS ARE TO COMMENCE UNTIL THE REQUIRED TREE REMOVAL PERMITS HAVE BEEN GRANTED BY RELEVANT LOCAL AUTHORITY, AND THE APPROPRIATE NOTICE OF INTENTION TO COMMENCE GIVEN.
G7. ALL SERVICES, OR CONDUITS FOR SERVICING SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF PAVEMENT CONSTRUCTION.
G8. SUBSOIL DRAINAGE, COMPRISING 100 AGRICULTURE PIPE IN GEO-STOCKING TO BE PLACED AS SHOWN AND AS MAY BE DIRECTED BY THE SUPERINTENDENT. SUBSOIL DRAINAGE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RELEVANT LOCAL AUTHORITY CONSTRUCTION SPECIFICATION.
G9. NO WORK IS PERMITTED WITHIN ADJOINING PROPERTIES WITHOUT WRITTEN PERMISSION FROM THE OWNERS OR RESPONSIBLE AUTHORITY.

DRAINAGE NOTES

D1. ALL DRAINAGE OUTLET LEVELS SHALL BE CONFIRMED ON SITE, PRIOR TO CONSTRUCTION COMMENCING.
D2. ALL PIPES WITHIN THE PROPERTY TO BE MIN. 100 DIA UPVC @ 1% MIN. GRADE, UNO.
D3. ALL PITS WITHIN THE PROPERTY ARE TO BE FITTED WITH "WELDLOK" OR APPROVED EQUIVALENT GRATES:
- LIGHT DUTY FOR LANDSCAPED AREAS
- HEAVY DUTY WHERE SUBJECTED TO VEHICULAR TRAFFIC
D4. PITS WITHIN THE PROPERTY MAY BE CONSTRUCTED AS:
1) PRECAST STORMWATER PITS
2) CAST INSITU MASS CONCRETE
3) CEMENT RENDERED 230mm BRICKWORK
SUBJECT TO THE RELEVANT LOCAL AUTHORITY CONSTRUCTION SPECIFICATION.
D5. ENSURE ALL GRATES TO PITS ARE SET BELOW FINISHED SURFACE LEVEL WITHIN THE PROPERTY. TOP OF PIT RL'S ARE APPROXIMATE ONLY AND MAY BE VARIED SUBJECT TO APPROVAL OF THE ENGINEER. ALL INVERT LEVELS ARE TO BE ACHIEVED.
D6. ANY PIPES BENEATH RELEVANT LOCAL AUTHORITY ROAD TO BE RUBBER RING JOINTED RCP, UNO.
D7. ALL PITS IN ROADWAYS ARE TO BE FITTED WITH HEAVY DUTY GRATES WITH LOCKING BOLTS AND CONTINUOUS HINGE.
D8. PROVIDE STEP IRONS TO STORMWATER PITS GREATER THAN 1200 IN DEPTH.
D9. TRENCH BACK FILL IN ROADWAYS SHALL COMPRISE SHARP, CLEAN GRANULAR BACK FILL IN ACCORDANCE WITH THE RELEVANT LOCAL AUTHORITY SPECIFICATION TO NON-TRAFFICABLE AREAS TO BE COMPACTED BY RODDING AND TAMPING USING A FLAT PLATE VIBRATOR.
D10. WHERE A HIGH EARLY DISCHARGE (HED) PIT IS PROVIDED ALL PIPES ARE TO BE CONNECTED TO THE HED PIT, UNO.
D11. DOWN PIPES SHALL BE A MINIMUM OF DN100 SW GRADE UPVC OR 100X100 COLORBOND/ZINCALUME STEEL, UNO.
D12. COLORBOND OR ZINCALUME STEEL BOX GUTTERS SHALL BE A MINIMUM OF 450 WIDE X 150 DEEP.
D13. EAVES GUTTERS SHALL BE A MINIMUM OF 125 WIDE X 100 DEEP (OR OF EQUIVALENT AREA) COLORBOND OR ZINCALUME STEEL, UNO.
D14. SUBSOIL DRAINAGE SHALL BE PROVIDED TO ALL RETAINING WALLS & EMBANKMENTS, WITH THE LINES FEEDING INTO THE STORMWATER DRAINAGE SYSTEM, UNO.

EARTHWORKS NOTES

E1. THE EARTHWORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT.
E2. THE SITE OF THE WORKS SHALL BE PREPARED BY STRIPPING ALL EXISTING TOPSOIL, FILL AND VEGETATION.
E3. SUBGRADE SHALL BE COMPACTED UNTIL A DRY DENSITY HAS BEEN ACHIEVED OF NOT LESS THAN 100% OF THE STANDARD MAXIMUM DRY DENSITY WHEN TESTED IN ACCORDANCE WITH AS 1289 TESTS E 1.1. OR E 1.2.
E4. THE EXPOSED SUBGRADE SHOULD BE PROOF ROLLED TO DETECT ANY SOFT OR WET AREAS WHICH SHOULD BE LOCALLY EXCAVATED AND BACK FILLED WITH SELECTED MATERIAL.
E5. THE BACK FILLING MATERIAL SHALL BE IMPORTED GRANULAR FILL OF LOW PLASTICITY, PREFERABLY CRUSHED SANDSTONE, AND TO BE PLACED IN LAYERS NOT EXCEEDING 150 LOOSE THICKNESS AND COMPACTED TO 98% OF STANDARD DRY DENSITY AT A MOISTURE CONTENT WITHIN 2% OF OPTIMUM.
E6. SITE WORKS ARE TO BE BATTERED TO ADJACENT PROPERTY LEVELS.
E7. STORMWATER MUST NOT BE CONCENTRATED ON TO AN ADJACENT PROPERTY.
E8. AT NO TIME DURING OR AFTER CONSTRUCTION IS STORMWATER TO BE PONDED ON ADJOINING PROPERTIES.
E9. THE SITE SHALL BE GRADED AND DRAINED SO THAT STORMWATER WILL BE DIRECTED AWAY FROM THE BUILDING PLATFORM.
E10. STORMWATER DRAINAGE SHALL BE PROVIDED AND MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION. ALL STORMWATER RUNOFF SHALL BE GRADED AWAY FROM THE SITE WORKS AND DISPOSED OF VIA SURFACE CATCHDRAINS AND STORMWATER COLLECTION PITS.
E11. ALL SURFACE CATCH DRAINS SHALL BE GRADED AT 1% (1 IN 100) MINIMUM. THE GROUND SHALL GRADE AWAY FROM ANY DWELLING AT 5% (1 IN 20) FOR THE FIRST METRE THEN AT 2.5% (1 IN 40).
E12. WHERE A CUT FILL PLATFORM IS USED THERE SHALL BE A MINIMUM BERM 1000 WIDE TO THE PERIMETER OF THE SITE WORKS WHICH SHALL BE SUPPORTED BY BATTERS OF 3:1 IN FILL.
E13. ANY VERTICAL OR NEAR VERTICAL PERMANENT EXCAVATION (CUT) DEEPER THAN 600 IN MATERIAL OTHER THAN ROCK SHALL BE ADEQUATELY RETAINED OR BATTERED AT A MINIMUM OF 3:1.
E14. WHERE BATTERS CANNOT BE PROVIDED TO SUPPORT THE CUT OR FILL, THEY SHALL BE ADEQUATELY RETAINED.
E15. RETAINING WALLS ARE TO BE CONSTRUCTED WITH ADEQUATE SUBSOIL DRAINAGE.

CONCRETE PAVEMENT

C1. SUBGRADE SHALL BE PREPARED AS OUTLINED IN EARTHWORKS.
C2. PROVIDE JOINTING AT MINIMUM 6000 MAX. INTERVALS OR AS OTHERWISE SPECIFIED IN THE DRAWINGS.
C3. CONCRETE SHALL COMPRISE A MIN. COMPRESSIVE STRENGTH OF 32MPa AT 28 DAYS IN ACCORDANCE WITH THE RELEVANT LOCAL AUTHORITY SPECIFICATION, UNO.
C4. ANY SUB-BASE MATERIAL SHALL BE COMPACTED AS OUTLINED IN EARTHWORKS.
C5. CONCRETE KERB AND GUTTER SHALL COMPRISE A MINIMUM COMPRESSIVE STRENGTH OF 25MPa, UNO.
C6. CONCRETE WORKS ARE TO BE CURED BY ONE OF THE FOLLOWING MEANS:
i) WETTING TWICE DAILY FOR THE FIRST THREE DAYS;
ii) USING AN APPROVED CURING COMPOUNDED FOR A MINIMUM OF 7 DAYS COMMENCING IMMEDIATELY AFTER POURING.

FLEXIBLE PAVEMENT NOTES

F1. SUBGRADE SHALL BE PREPARED AS OUTLINED IN EARTHWORKS.
F2. PAVEMENT MATERIAL SHALL CONSIST OF APPROVED OR RIPPED SANDSTONE, NATURAL GRAVEL OR FINE CRUSH ROCK AS PER THE RELEVANT COUNCIL AUTHORITY SPECIFICATION.
F3. PAVEMENT MATERIALS SHALL BE SPREAD IN LAYERS NOT EXCEEDING 150 AND NOT LESS 75 COMPACTED THICKNESS.
F4. PAVEMENT MATERIALS SHALL BE SIZED AND OF A STANDARD OUTLINED IN AS1141.
F5. CRUSHED OR RIPPED SANDSTONE SHALL BE MINUS 75 NOMINAL SIZE DERIVED FROM SOUND, CLEAN SANDSTONE FREE FROM OVERBURDEN, CLAY SEAMS, SHALE AND OTHER DELETERIOUS MATERIAL.
F6. PAVEMENT MATERIALS SHALL BE COMPACTED BY SUITABLE MEANS TO SATISFY THE FOLLOWING MINIMUM SPECIFICATIONS (AS PER AS1289.2)

DESCRIPTION	MEDIUM DENSITY RATIO
SUB-BASE	98% MOD
BASE COURSE	98% MOD
ASPHALTIC CONCRETE	97% MOD

AND SUBJECT TO THE RELEVANT LOCAL AUTHORITY CONSTRUCTION SPECIFICATION.

F7. TESTING FOR EACH LAYER SHALL BE UNDERTAKEN BY A N.A.T.A. REGISTERED LABORATORY IN ACCORDANCE WITH AS1289, AT NOT MORE THAN 50m INTERVALS AND A MINIMUM OF TWO PER LAYER. FURTHER FREQUENCY OF TESTING SHALL BE NO LESS THAN THAT REQUIRED BY AS3978.

PAVED AREAS NOTES

A1. SUBGRADE SHALL BE PREPARED AS OUTLINED IN EARTHWORKS.
A2. ALL PAVERS ARE TO BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.
A3. TRAFFICABLE AREAS:
SUB-BASE TO BE 150 COMPACTED THICKNESS DGS75.
SUB-BASE TO BE SUITABLY COMPACTED TO MEDIUM DENSITY 98% MOD.
SUB-BASE TO EXTEND AT LEAST 200 BEYOND PAVED SURFACE.
PAVERS TO BE 80 THICK INTERLOCKING PAVERS ON 50 SAND BEDDING.
A4. NON TRAFFICABLE AREAS:
SUB BASE AS PER TRAFFICABLE AREAS
PAVERS TO BE 60 INTERLOCKING PAVERS ON 50 SAND BEDDING (UNO).

CONCRETE STRUCTURES NOTES

S1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
S2. CONCRETE COMPONENTS AND QUALITY SHALL BE AS FOLLOWS, UNO:

ELEMENT	SLUMP mm	MAX. SIZE AGG. mm	CEMENT TYPE	f'c AT 28 DAYS - MPa	ADMIXTURE
FOOTINGS	80	20	A	25	-
PIERS & CAPS	80	20	A	25	-
SLABS ON GROUND	80	20	A	32	-
SUSPENDED SLABS	80	20	A	32	-
PITS	80	20	A	25	-

S3. MINIMUM CLEAR CONCRETE COVER TO REINFORCEMENT INCLUDING TIES AND STIRRUPS SHALL BE AS FOLLOWS UNO.

EXPOSURE CLASSIFICATION	MINIMUM COVER (mm)				
	CONCRETE STRENGTH (f'c)				
	20 MPa	25 MPa	32 MPa	40 MPa	>50 MPa
A1	20	20	20	20	20
A2	(50)	30	25	20	20
B1	-	(60)	40	30	25
B2	-	-	(65)	45	35
C	-	-	-	(70)	50

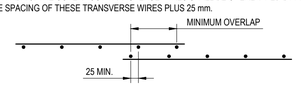
FOR BRACKETED FIGURES REFER TO AS 3600 CURRENT EDITION TABLE 4.10.3.2

S4. MINIMUM COVER FOR FIRE RESISTANCE LEVEL (FRL) SHALL BE AS FOLLOWS;

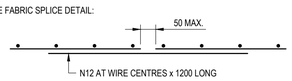
MINIMUM ELEMENT WIDTH OR THICKNESS / MIN COVER (mm)				
FRL	BEAM	SLAB	COLUMN	WALL
60	125 / 30	80 / 20	200 / 20	80 / 20
90	150 / 45	100 / 25	250 / 35	100 / 35
120	200 / 55	120 / 30	300 / 45	120 / 40
180	240 / 70	150 / 45	400 / 60	150 / 45
240	270 / 80	170 / 55	450 / 70	170 / 50

NOTE : 1. REFER TO AS 3600 CURRENT EDITION FOR REDUCED COVERS IF GREATER ELEMENT THICKNESSES ARE ADOPTED FOR BEAMS & COLUMNS.
2. COVER IS MEASURED TO THE MAIN REINFORCEMENT

S5. COVER TO REINFORCEMENT SHALL BE OBTAINED BY THE USE OF APPROVED BAR CHAIRS. ALL CHAIRS SHALL BE SPACED AT 1000 CTS MAXIMUM.
S6. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED. VIBRATORS SHALL NOT BE USED TO SPREAD CONCRETE.
S7. SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
S8. NO HOLES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
S9. CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO APPROVAL OF THE ENGINEER. ALL CONSTRUCTION JOINTS SHALL BE SCABBLED OVER THE WHOLE FACE AND ANY UNSOUND MATERIAL REMOVED.
S10. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY; IT IS NOT NECESSARILY SHOWN IN TRUE PROJECTION.
S11. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITIONS SHOWN OR AS APPROVED BY THE ENGINEER. WHERE THE LAP LENGTH IS NOT SHOWN IT SHALL BE SUFFICIENT TO DEVELOP THE FULL STRENGTH OF THE REINFORCEMENT AS SPECIFIED IN AS3600. COGS AND HOOKS SHALL BE STANDARD UNLESS SHOWN OTHERWISE.
S12. WELDING OF REINFORCEMENT WILL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE ENGINEER.
S13. PIPES OR CONDUITS SHALL NOT BE PLACED WITHIN THE CONCRETE COVER TO REINFORCEMENT WITHOUT THE APPROVAL OF THE ENGINEER.
S14. REINFORCEMENT SYMBOLS:
N - DENOTES DEFORMED GRADE 500 NORMAL DUCTILITY REINFORCING BARS TO AS/NZS 4671.
R - DENOTES PLAIN ROUND GRADE 250 NORMAL DUCTILITY REINFORCING BARS TO AS/NZS 4671.
SL - DENOTES DEFORMED GRADE 500 LOW DUCTILITY REINFORCING MESH TO AS/NZS 4671.
RL - DENOTES DEFORMED GRADE 500 LOW DUCTILITY REINFORCING MESH TO AS/NZS 4671.
L--TM - DENOTES DEFORMED GRADE 500 LOW DUCTILITY TRENCH MESH TO AS/NZS 4671.
S15. ALL REINFORCING FABRIC SHALL COMPLY WITH AS1303 AND AS1304 AND SHALL BE SUPPLIED IN FLAT SHEETS.
S16. SPLICES IN FABRIC: THE OUTERMOST TRANSVERSE WIRES SHALL BE OVERLAPPED BY AT LEAST THE SPACING OF THESE TRANSVERSE WIRES PLUS 25 mm.



ALTERNATIVE FABRIC SPLICE DETAIL:



S17. EXPOSED CORNERS SHALL BE 20 mm CHAMFERED UNO.
S18. ALL REINFORCEMENT SHALL BE INSPECTED BY THE SUPERINTENDENT OR ENGINEER PRIOR TO PLACING CONCRETE.
S19. ALL SLAB CONCRETE TO BE CURED IN AN APPROVED MANNER FOR A MINIMUM OF 7 DAYS.
S20. ALL FORMWORK AND PROPS FOR SLABS AND BEAMS SHALL BE REMOVED BEFORE CONSTRUCTION OF ANY MASONRY WALLS OR PARTITIONS ON THE FLOOR.
S21. ALL ABBREVIATIONS ARE IN ACCORDANCE WITH AS1100.
S22. FORMWORK SHALL NOT BE STRIPPED UNTIL CONCRETE HAS ACHIEVED A MINIMUM STRENGTH OF 20 MPa. THE CONCRETE SLAB AND BEAMS SHALL BE TEMPORARILY BACK PROPPED UNTIL THE CONCRETE HAS ACHIEVED 28 DAY STRENGTH AND ANY PROPPING TO HIGHER LEVEL FORMS HAVE BEEN REMOVED.
S23. WHERE A SUSPENDED SLAB IS TO BE SUPPORTED OFF A SUSPENDED SLAB BELOW, WRITTEN APPROVAL SHALL BE OBTAINED FROM THE ENGINEER PRIOR TO ANY SITE WORKS.

MASONRY

M1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3700.

M2. THE DESIGN STRENGTH OF MASONRY SHALL BE AS FOLLOWS U.N.O. :

EXPOSURE CLASSIFICATION T0 AS 3600	MASONRY COMPRESSIVE STRENGTH MPa (f'm)	MASONRY SALT RESISTANCE GRADE	DURABILITY CLASSIFICATION OF BUILT IN COMPONENTS	MORTAR MIX	
				GP PORTLAND CEMENT : LIME : SAND	f'c MPa
A1 / A2	> 6.3	General Purpose	R3 (Galvanised)	1.0 : 1.0 : 6.0	2.8
B1	> 6.3	General Purpose	R3 (Galvanised)	1.0 : 1.0 : 6.0	2.8
B2	> 6.7	Exposure	R4 (Stainless)	1.0 : 0.5 : 4.5	2.8

M3. ALL MASONRY WALLS SUPPORTING SLABS AND BEAMS SHALL HAVE A PRE-GREASED TWO LAYER GALVANISED STEEL SLIP JOINT BETWEEN CONCRETE AND MASONRY.

M4. ALL MASONRY WALLS SUPPORTING OR SUPPORTED BY CONCRETE FLOORS SHALL BE PROVIDED WITH VERTICAL JOINTS TO MATCH ANY CONTROL JOINTS IN THE CONCRETE.

M5. NON LOAD BEARING WALLS SHALL BE SEPARATED FROM CONCRETE ABOVE BY 20 mm THICK CLOSED CELL POLYETHYLENE STRIP.

M6. MASONRY SHALL BE ARTICULATED IN ACCORDANCE WITH TECHNICAL NOTE 61 FROM THE CEMENT AND CONCRETE ASSOCIATION OF AUSTRALIA. VERTICAL CONTROL JOINTS SHALL NOT EXCEED 5 METRES MAXIMUM CENTRES, AND 4 METRES MAXIMUM FROM CORNERS IN MASONRY WALLS, AND BETWEEN NEW & EXISTING BRICKWORK.

M7. MASONRY RETAINING WALLS ARE TO BE BACKFILLED WITH EITHER OF THE FOLLOWING MATERIAL:
- COARSE GRAINED SOIL WITH LOW SILT CONTENT
- RESIDUAL SOIL CONTAINING STONES
- FINE SILTY SAND
- GRANULAR MATERIALS WITH LOW CLAY CONTENT

BLOCKWORK

B1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3700.

B2. REINFORCED CONCRETE BLOCKWORK SHALL COMPLY WITH THE FOLLOWING, UNO:
- BLOCKS : GRADE 15 CONFORMING TO AS1500.
- MORTAR : 1 CEMENT / 0.25 LIME / 3 SAND.
- PROVIDE CLEANOUT HOLES AT BASE OF WALL & ROD CORE HOLES TO REMOVE PROTRUDING MORTAR FINS.
- CORE FILLING : f'c = 20 MPa. 10 AGG, 230 SLUMP +/- 30 mm.
- COVER : 55 mm MIN. FROM OUTSIDE OF BLOCKWORK.

B3. BACKFILL TO RETAINING WALLS TO BE FREE DRAINING GRANULAR MATERIAL, UNO. PROVIDE SUBSOIL DRAIN BEHIND WALL AND AT WEEP HOLES.

B4. VERTICAL CONTROL JOINTS SHALL BE PROVIDED AT 10 m MAX. CENTRES.

B5. NO ADMIXTURES SHALL BE USED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.

STANDARD LINE TYPES AND SYMBOLS:

PROPOSED KERB & GUTTER
EXISTING KERB & GUTTER
PROPOSED BELOW GROUND PIPELINE
PROPOSED SUSPENDED PIPELINE
EXISTING PIPELINE
SUBSOIL DRAINAGE LINE
PROPOSED KERB INLET PIT
EXISTING KERB INLET PIT
PROPOSED JUNCTION OR INLET PIT
EXISTING JUNCTION OR INLET PIT
DESIGN CENTRELINE
EXISTING EDGE OF BITUMEN
TELECOMUNICATION CONDUIT
GAS MAIN
WATER MAIN
SEWER MAIN
UNDERGROUND ELECTRICITY CABLES
PERMANENT MARK & S.S.M.
BENCH MARK, SURVEY STATION

LOCATION PLAN

SCHEDULE OF DRAWINGS

FOR APPROVAL ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

A1 ORIGINAL SIZE

REVISION	DATE	AMENDMENT DESCRIPTION
G	01.03.22	RE-ISSUED FOR APPROVAL
F	20.12.21	RE-ISSUED FOR APPROVAL
E	01.11.21	RE-ISSUED FOR APPROVAL
D	12.04.21	RE-ISSUED FOR APPROVAL
C	26.03.21	ISSUED FOR APPROVAL
B	05.03.21	ISSUED FOR APPROVAL

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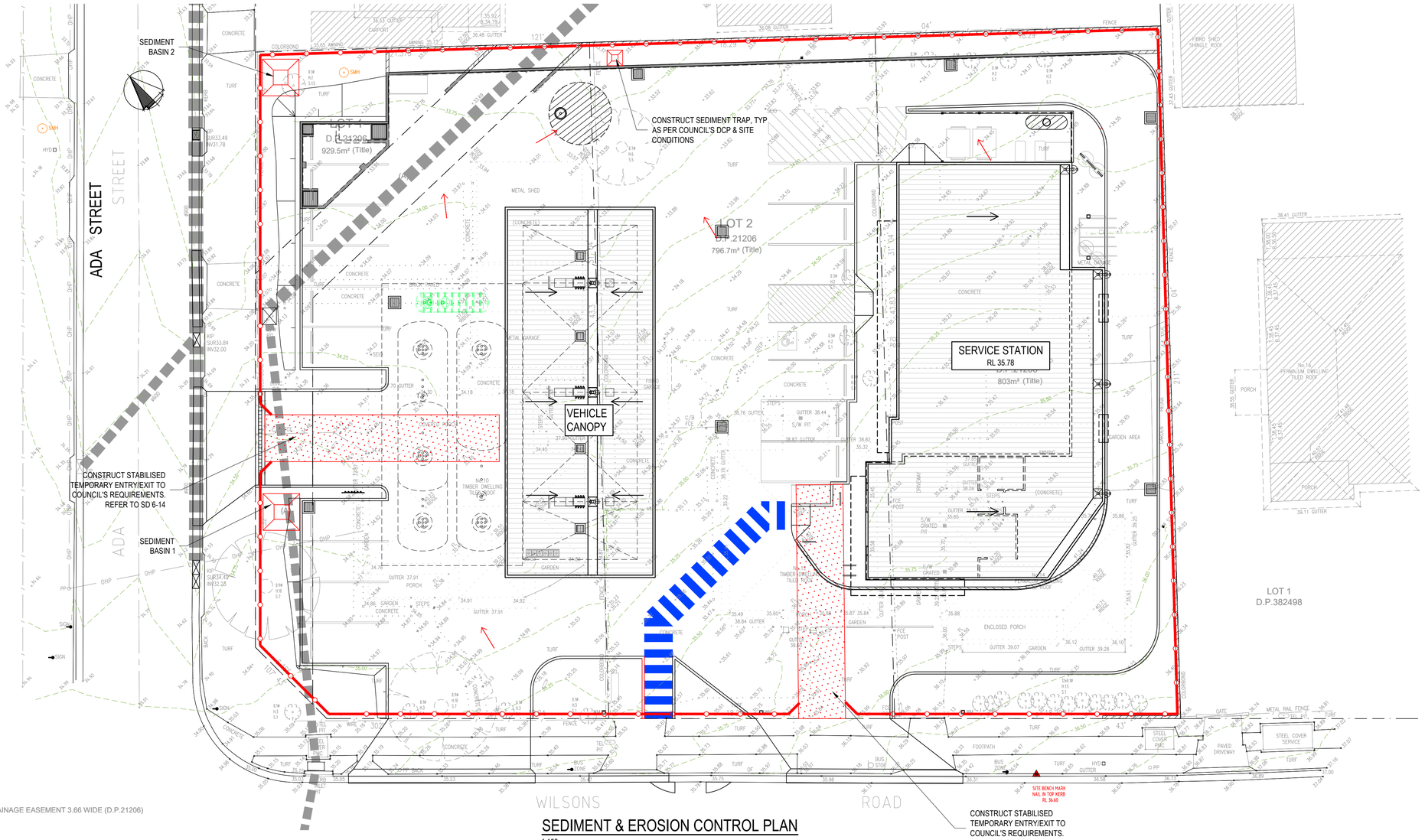
PROPOSED SERVICE STATION
10-14 Wilsons Road, Mount Hutton
For Brown Commercial Building

GENERAL NOTES

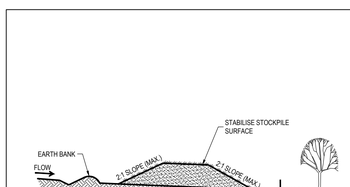
DESIGN	DRAWN	DATE	PROJECT No.
SWH	RCL	SEP 2020	10122
CHECKED	APPROVED	SCALE	DRG No.
			C01 - G



SEDIMENT & EROSION CONTROL PLAN

1:150

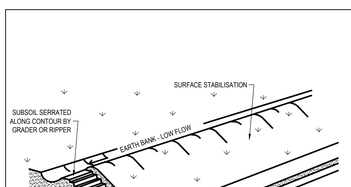
- DENOTES SEDIMENT FENCE
- DENOTES SURFACE WATER FLOW



CONSTRUCTION NOTES

1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
4. WHERE THEY ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESCP OR SWMP TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
5. CONSTRUCT EARTH BANKS (STANDARD DRAWING 5-5) ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES (STANDARD DRAWING 6-8) 1 TO 2 METRES DOWNSLOPE.

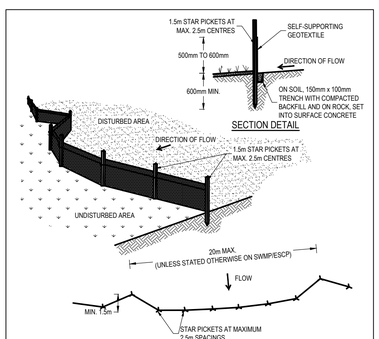
STOCKPILES — SD 4-1



CONSTRUCTION NOTES

1. SCARIFY THE GROUND SURFACE ALONG THE LINE OF THE CONTOUR TO A DEPTH OF 50mm TO 100mm TO BREAK UP ANY HARDSETTING SURFACES AND TO PROVIDE A GOOD BOND BETWEEN THE RESPREAD MATERIAL AND SUBSOIL.
2. ADD SOIL AMELIORANTS AS REQUIRED BY THE ESCP OR SWMP.
3. RIP TO A DEPTH OF 300mm IF COMPACTED LAYERS OCCUR.
4. WHERE POSSIBLE, REPLACE TOPSOIL TO A DEPTH OF 40 TO 60mm ON LANDS WHERE THE SLOPE EXCEEDS 4(H):1(V) AND TO AT LEAST 75mm ON LOWER GRADIENTS.

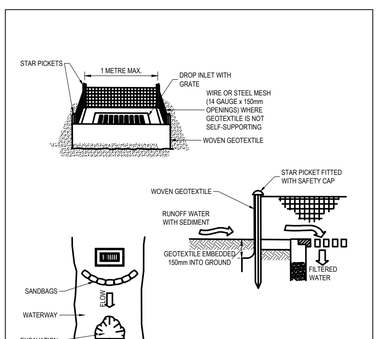
REPLACING TOPSOIL — SD 4-2



CONSTRUCTION NOTES

1. CONSTRUCT SEDIMENT FENCES AS CLOSE AS POSSIBLE TO BEING PARALLEL TO THE CONTOURS OF THE SITE, BUT WITH SMALL RETURNS AS SHOWN IN THE DRAWING TO LIMIT THE CATCHMENT AREA OF ANY ONE SECTION. THE CATCHMENT AREA SHOULD BE SMALL ENOUGH TO LIMIT WATER FLOW IF CONCENTRATED AT ONE POINT TO 50 LITRES PER SECOND IN THE DESIGN STORM EVENT, USUALLY 10-YEAR EVENT.
2. CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
3. DRIVE 1.5 METRE LONG STAR PICKETS INTO GROUND AT 2.5 METRE INTERVALS (MAX.) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
4. FIX SELF-SUPPORTING GEOTEXTILE TO THE UPSLOPE SIDE OF THE POSTS ENSURING IT GOES TO THE BASE OF THE TRENCH. FIX THE GEOTEXTILE WITH WIRE TIES OR AS RECOMMENDED BY THE MANUFACTURER. ONLY USE GEOTEXTILE SPECIFICALLY PRODUCED FOR SEDIMENT FENCING. THE USE OF SHADE CLOTH FOR THIS PURPOSE IS NOT SATISFACTORY.
5. JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150mm OVERLAP.
6. BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

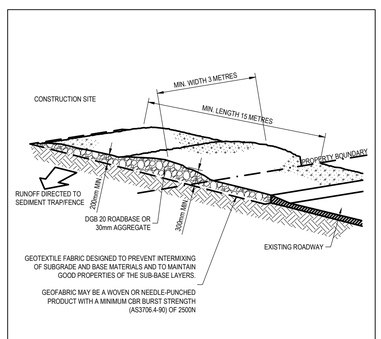
SEDIMENT FENCE — SD 6-8



CONSTRUCTION NOTES

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. FOLLOW STANDARD DRAWING 6-7 AND STANDARD DRAWING 6-8 FOR INSTALLATION PROCEDURES FOR THE STRAW BALES OR GEOFABRIC. REDUCE THE PICKET SPACING TO 1 METRE CENTRES.
3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
4. DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

GEOTEXTILE INLET FILTER — SD 6-12



CONSTRUCTION NOTES

1. STRIP THE TOPSOIL, LEVEL THE SITE AND COMPACT THE SUBGRADE.
2. COVER THE AREA WITH NEEDLE-PUNCHED GEOTEXTILE.
3. CONSTRUCT A 200mm THICK PAD OVER THE GEOTEXTILE USING ROAD BASE OR 30mm AGGREGATE.
4. ENSURE THE STRUCTURE IS AT LEAST 15 METRES LONG OR TO BUILDING ALIGNMENT AND AT LEAST 3 METRES WIDE.
5. WHERE A SEDIMENT FENCE JOINS ONTO THE STABILISED ACCESS, CONSTRUCT A HUMP IN THE STABILISED ACCESS TO DIVERT WATER TO THE SEDIMENT FENCE.

STABILISED SITE ACCESS — SD 6-14

FOR APPROVAL ONLY

NOT TO BE USED FOR CONSTRUCTION PURPOSES

A1 ORIGINAL SIZE

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G	01.03.22	RE-ISSUED FOR APPROVAL
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B	05.03.21	ISSUED FOR APPROVAL

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PROPOSED SERVICE STATION

10-14 Wilsons Road, Mount Hutton

For Brown Commercial Building

SEDIMENT & EROSION CONTROL PLAN

DESIGN	DRAWN	DATE	PROJECT No.
SWH	RCL	SEP 2020	10122
CHECKED	APPROVED	SCALE 1:150	DRG No. C02 - G

Erosion and Sediment Control Notes

The following notes may not be relevant to each development.

General

1. ESCP refers to Erosion and Sediment Control Plan and SWMP refers to Soil and Water Management Plan.
2. ESC refers to erosion and sediment control.
3. Sediment, includes, but is not limited to, clay, silt, sand, gravel, soil, mud, cement, and ceramic waste.
4. Any reference to the Blue Book refers to Managing Urban Stormwater - Soils and Construction. Landcom, 2004.
5. Any reference to the IECA White Books (2008) refers to IECA 2008. Best Practice Erosion and Sediment Control. Books 1-6.International Erosion Control Association (Australasia). Picton NSW.
6. Any material deposited in any conservation area from works associated with the development shall be removed immediately by measures involving minimal ground and/or vegetation disturbance and no machinery, or following directions by Council and/or within a timeframe advised by Council.

The ESCP

7. The ESCP and its associated ESC measures shall be constantly monitored, reviewed, and modified as required to correct deficiencies. Council has the right to direct changes if, in its opinion, the measures that are proposed or have been installed are inadequate to prevent pollution.
8. Prior to any activities onsite, the responsible person(s) is to be nominated. The responsible person(s) shall be responsible for the ESC measures onsite. The name, address and 24 hour contact details of the person(s) shall be provided to Council in writing. Council shall be advised within 48 hours of any changes to the responsible person(s), or their contact details, in writing.
9. At least 14 days before the natural surface is disturbed in any new stage, the contractor shall submit to the Certifier, a plan showing ESC measures for that Stage. The degree of design detail shall be based on the disturbed area.
10. At any time, the ESC measures onsite shall be appropriate for the area of disturbance and its characteristics including soils (in accordance with those required for the site as per DCP).
11. The implementation of the ESCP shall be supervised by personnel with appropriate qualifications and/or experience in ESC on construction sites.
12. The approved ESCP shall be available on-site for inspection by Council officers while work activities are occurring.
13. The approved ESCP shall be up to date and show a timeline of installation, maintenance and removal of ESC measures.
14. All ESC measures shall be appropriate for the Sediment Type(s) of the soils onsite, in accordance with the Blue Book, IECA White Books or other current recognised industry standard for ESC for Australian conditions.
15. Adequate site data, including soil data from a NATA approved Laboratory, shall be obtained to allow the preparation of an appropriate ESCP, and allow the selection, design and specification of required ESC measures.
16. All works shall be carried out in accordance with the approved ESCP (as amended from time to time) unless circumstances arise where:
    a) compliance with the ESCP would increase the potential for environmental harm; or
    b) circumstances change during construction and those circumstances could not have been foreseen; or
    c) Council determines that unacceptable off-site sedimentation is occurring as a result of a land-disturbing activity. In either case, the person(s) responsible may be required to take additional, or alternative protective action, and/or undertake reasonable restoration works within the timeframe specified by the Council.
17. Additional ESC measures shall be implemented, and a revised ESCP submitted for approval to the certifier (within five business days of any such amendments) in the event that:
    a) there is a high probability that serious or material environmental harm may occur as a result of sediment leaving the site; or
    b) the implemented works fail to achieve Council's water quality objectives specified in these conditions; or
    c) site conditions significantly change; or
    d) site inspections indicate that the implemented works are failing to achieve the "objective" of the ESCP.
18. A copy of any amended ESCP shall be forwarded to an appropriate Council Officer, within five business days of any such amendments.

Site establishment including clearing and mulching

19. No land clearing shall be undertaken unless preceded by the installation of adequate drainage and sediment control measures, unless such clearing is required for the purpose of installing such measures, in which case, only the minimum clearing required to install such measures shall occur.
20. Bulk tree clearing and grubbing of the site shall be immediately followed by specified temporary erosion control measures (e.g. temporary grassing or mulching) prior to commencement of each stage of construction works.
21. Trees and vegetation cleared from the site shall be mulched onsite within 7 days of clearing.
22. Appropriate measures shall be undertaken to control any dust originating due to the mulching of vegetation onsite.
23. All office facilities and operational activities shall be located such that any effluent, including wash-down water, can be totally contained and treated within the site.
24. All reasonable and practicable measures shall be taken to ensure stormwater runoff from access roads and stabilised entry/exit systems, drains to an appropriate sediment control device.
25. Site exit points shall be appropriately managed to minimise the risk of sediment being tracked onto sealed, public roadways.
26. Stormwater runoff from access roads and stabilised entry/exit points shall drain to an appropriate sediment control device.
27. The Applicant shall ensure an adequate supply of ESC, and appropriate pollution clean-up materials are available on-site at all times.
28. All temporary earth banks, flow diversion systems, and sediment basin embankments shall be machine-compacted, seeded and mulched within ten (10) days of formation for the purpose of establishing a vegetative cover, or lined appropriately.
29. Sediment deposited off site as a result of on-site activities shall be collected and the area cleaned/rehabilitated as soon as reasonable and practicable.
30. Concrete waste and chemical products, including petroleum and oil-based products, shall be prevented from entering any internal or external water body, or any external drainage system, excluding those on-site water bodies specifically designed to contain and/or treat such material. Appropriate measures shall be installed to trap these materials onsite.
31. Brick, tile or masonry cutting shall be carried out on a pervious surface (e.g. grass or open soil) and in such a manner that any resulting sediment-laden runoff is prevented from discharging into a gutter, drain or water. Appropriate measures shall be installed to trap these materials onsite.
32. Newly sealed hard-stand areas (e.g. roads, driveways and car parks) shall be swept thoroughly as soon as practicable after sealing/surfacing to minimise the risk of components of the surfacing compound entering stormwater drains.
33. Stockpiles of erodible material shall be provided with an appropriate protective cover (synthetic or organic) if the materials are likely to be stockpiled for more than 10 days.
34. Stockpiles, temporary or permanent, shall not be located in areas identified as no-go zones (including, but not limited to, restricted access areas, buffer zones, or areas of non-disturbance) on the ESCP.
35. No more than 150m of a stormwater, sewer line or other service trench shall to be open at any one time.
36. Site spoil shall be lawfully disposed of in a manner that does not result in ongoing soil erosion or environmental harm.
37. Wherever reasonable and practicable, stormwater runoff entering the site from external areas, and non-sediment laden (clean) stormwater runoff entering a work area or area of soil disturbance, shall be diverted around or through that area in a manner that minimises soil erosion and the contamination of that water for all discharges up to the specified design storm discharge.

VERSION	DATE	COMMENTS	PAPER SIZE
01	2019-05	Final	A4

WORK TO FIGURED DIMENSIONS - DO NOT SCALE. DO NOT RELY ON THESE STANDARD DRAWINGS AS THE EQUIVALENT OF, OR SUBSTITUTE FOR, PROJECT-SPECIFIC DESIGN & ASSESSMENT BY A QUALIFIED PROFESSIONAL.

Lake Macquarie City Council

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DRAWING TITLE: Standard Drawings Erosion and Sediment Control Notes

SHEET: 1 OF 3 | DRAWING No: EGSD-428 | VERSION: 01

Erosion and Sediment Control Notes continued

Site Management including Dust

38. Priority shall be given to the prevention, or at least the minimisation, of soil erosion, rather than the trapping of displaced sediment. Such a clause shall not reduce the responsibility to apply and maintain, at all times, all necessary ESC measures.
39. Measures used to control wind erosion shall be appropriate for the location and prevent soil erosion and emissions from site at all times, including working hours, out of hours, weekends, public holidays, and during any other shutdown periods.
40. The application of liquid or chemical-based dust suppression measures shall ensure that sediment-laden runoff resulting from such measures does not create a traffic or environmental hazard.
41. All cut and fill earth batters less than 3m in elevation shall be topsoiled, and grass seeded/hydromulched within 10 days of completion of grading in consultation with Council.
42. All disturbed areas shall be stabilised in accordance with time lines in the Blue Book.
43. All reasonable and practicable measures shall be taken to prevent, or at least minimise, the release of sediment from the site.
44. Suitable all-weather maintenance access shall be provided to all sediment control devices.
45. Sediment control devices, other than sediment basins, shall be de-silted and made fully operational as soon as reasonable and practicable after a sediment-producing event, whether natural or artificial, if the device's sediment retention capacity falls below 75% of its design retention capacity.
46. All erosion and sediment control measures, including drainage control measures, shall be maintained in proper working order at all times during their operational lives.
47. Washing/flushing of sealed roadways shall only occur where sweeping has failed to remove sufficient sediment and there is a compelling need to remove the remaining sediment (e.g. for safety reasons). In such circumstances, all reasonable and practicable sediment control measures shall be used to prevent, or at least minimise, the release of sediment into receiving waters. Only those measures that will not cause safety and property flooding issues shall be employed. Sediment removed from roadways shall be disposed of in a lawful manner that does not cause ongoing soil erosion or environmental harm.
48. Sediment removed from sediment traps and places of sediment deposition shall be disposed of in a lawful manner that does not cause ongoing soil erosion or environmental harm.

Sediment Basins - installation, maintenance and removal including sediment traps

49. As-Constructed plans shall be prepared for all constructed Sediment Basins and associated emergency spillways. Such plans shall verify the basin's dimensions, levels and volumes comply with the approved design drawings. These plans may be requested by the Certifier or Council.
50. Sediment basins shall be constructed and fully operational prior to any other soil disturbance in their catchment.
51. Install an internal gated valve, or similar, in any outlet pipe once pipes installed, or install a sacrificial pipe from basin through wall to external outlet point. The valve shall be connected to a riser made from slotted pipe in the basin. The valve may be opened once captured water meets water quality requirements. The final setup for temporary internal outlet structures to be confirmed prior to construction with Council. This setup will enable discharge of treated water from site without need for pumping.
52. A sediment storage level marker post shall be with a cross member set just below the top of the sediment storage zone (as specified on the approved ESCP). At least a 75mm wide post shall be firmly set into the basin floor.
53. The Site Manager shall obtain the relevant approvals from the relevant organisations to discharge treated water from any existing basins. Organisations may include, but not be limited to, Hunter Water, and Council.
54. Where more than one stage is to be developed at one time, or before the preceding stage is complete, the sediment basin(s) for these stages shall have sufficient capacity to cater for all area directed to the basin(s).
55. Prior to any forecast weather event likely to result in runoff, any basins/traps shall be dewatered to provide sufficient capacity to capture sediment laden water from the site.
56. Sufficient quantities of chemicals/agents to treat captured water shall be placed such that water entering the basin mixes with the chemical/agents and is carried into the basin to speed up clarification.
57. Any basin shall be dewatered within the X-day rainfall depth used to calculate the capacity of the basin, after a rainfall event.
58. Sufficient quantities of chemicals/agents to treat turbid water shall be securely stored on-site to provide for at least three complete treatments of all basins requiring chemically treatment onsite.
59. Prior to the controlled discharge (e.g. de-watering activities) from site including excavations and/or seciment basins, the following water quality objectives shall be achieved:
    a) Total Suspended Solids (TSS) to a maximum 50 milligrams/L;
    b) water pH between 6.5 and 8.5, unless otherwise required by the Council;
    c) Turbidity (measured in NTUs) to a maximum of 60 NTU); and
    d) EC levels no greater than background levels.
60. The Development Approval may require testing of additional water quality elements prior to discharge. E.g. including but not limited to metals, organic substances, chemicals or bacteriological indicators.
61. A sample of the released treated water shall be kept onsite in a clear container with the sample date recorded on it.
62. Water quality samples shall be taken at a depth no less than 200mm below the water surface of the basin.
63. No Aluminium based products may be used treat captured water onsite without the prior written permission from an appropriate Council Officer. The applicant shall have a demonstrated ability to use such products correctly and without environmental harm prior to any approval.
64. The chemical/agent used in Type D and Type F basins to treat captured water captured in the basin shall be applied in concentrations sufficient to achieve Council's water quality objectives within the X-day rainfall depth used to calculate the capacity of the basin, after a rainfall event.
65. All Manufacturers' Instructions shall be followed for any chemicals/agents used onsite, except where approved by the Responsible Person or an appropriate Council Officer.
66. The Applicant shall ensure that on each occasion a Type F or Type D basin was not de-watered prior to being surcharged by a following rainfall event, a report is presented to an appropriate Council officer within 5 days identifying the circumstances and proposed amendments, if any, to the basin's operating procedures.
67. Settled sediment shall be removed as soon as reasonable and practicable from any sediment basin if:
    a) it is anticipated that the next storm event is likely to cause sediment to settle above the basin's sediment storage zone; or
    b) the elevation of settled sediment is above the top of the basin's sediment storage zone; or
    c) the elevation of settled sediment is above the basins sediment marker line.
68. Scour protection measures placed on sediment basin emergency spillways shall appropriately protect the spillway chute and its side batters from scour, and shall extend a minimum of 3m beyond the downstream toe of the basin's embankment.
69. Suitable all-weather maintenance access shall be provided to all sediment control devices.
70. Materials, whether liquid or solid, removed from any ESC measure or excavation during maintenance or decommissioning, shall be disposed of in a manner that does not cause ongoing soil erosion, water pollution or environmental harm.
71. All sediment basins shall remain fully operational at all times until the basin's design catchment achieves 70% ground cover or surface stabilisation acceptable to Council.
72. The ESC measures installed during the decommissioning and rehabilitation of a sediment basin shall comply with same standards specified for the normal construction works.
73. A sediment basin shall not be decommissioned until all up-slope site stabilisation measures have been implemented and are appropriately working to control soil erosion and sediment runoff..

VERSION	DATE	COMMENTS	PAPER SIZE
01	2019-05	Final	A4

WORK TO FIGURED DIMENSIONS - DO NOT SCALE. DO NOT RELY ON THESE STANDARD DRAWINGS AS THE EQUIVALENT OF, OR SUBSTITUTE FOR, PROJECT-SPECIFIC DESIGN & ASSESSMENT BY A QUALIFIED PROFESSIONAL.

Lake Macquarie City Council

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DRAWING TITLE: Standard Drawings Erosion and Sediment Control Notes

SHEET: 2 OF 3 | DRAWING No: EGSD-428 | VERSION: 01

Erosion and Sediment Control Notes continued

74. Immediately prior to the construction of the permanent stormwater treatment device, appropriate flow bypass conditions shall be established to prevent sediment-laden water entering the device.

Revegetation/Stabilisation

75. Temporary Stabilisation may be attained using vegetation, non rewettable soil polymers, or pneumatically applied erosion controls.
76. All cut and fill earth batters less than 3m in elevation shall be topsoiled, and grass seeded/hydromulched within 10 days of completion of grading in consultation with Council.
77. At the completion of formation in any section, all disturbed areas shall be stabilised in accordance with time lines in the Blue Book.
78. The LMCC Seed mix shall be used unless stated on the ESCP/SWMP.
79. The pH level of topsoil shall be appropriate to enable establishment and growth of specified vegetation prior to initiating the establishment of vegetation.
80. Non rewettable binder shall be used in all hydromulch/hydroseed/polymer mixes on slopes or works adjacent to a water course.
81. Soil ameliorants shall be added to the soil in accordance with an approved Landscape Plan, Vegetation Management Plan, and/or soil analysis.
82. Surface soil density, compaction and surface roughness shall be adjusted prior to seeding/planting in accordance with an approved Landscape Plan, Vegetation Management Plan, and/or soil analysis.
83. Procedures for initiating a site shutdown, whether programmed or un-programmed, shall incorporate revegetation of all soil disturbances unless otherwise approved by Council. The stabilisation works shall not rely upon the longevity of non-vegetated erosion control blankets, or temporary soil binders.

Site Monitoring and Maintenance

84. The Applicant shall ensure that appropriate procedures and suitably qualified personnel are engaged to plan and conduct site inspections and water quality monitoring throughout the construction and maintenance phase.
85. All ESC measures shall be inspected and any maintenance undertaken immediately:
    a) at least daily (when work is occurring on-site); and
    b) at least weekly (when work is not occurring on-site); and
    c) within 24hrs of expected rainfall; and
    d) within 18hrs of a rainfall event that causes runoff on the site.
86. Written records shall be kept onsite of ESC monitoring and maintenance activities conducted during the construction and maintenance periods, and be available to Council officers on request.
87. All environmentally relevant incidents shall be recorded in a field log that shall remain accessible to all relevant regulatory authorities.
88. All water quality data, including dates of rainfall, dates of testing, testing results and dates of water release, shall be kept in an on-site register. The register is to be maintained up to date for the duration of the approved works and be available on-site for inspection by all relevant regulatory authorities on request.
89. At nominated instream water monitoring sites, a minimum of 3 water samples shall be taken and analysed, and the average result used to determine quality.

Instream Works

90. All instream works (including in or adjacent to watercourses natural or manmade, flowing or not) shall be carried out in accordance with the IECA White Books.

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PROPOSED SERVICE STATION

10-14 Wilsons Road, Mount Hutton

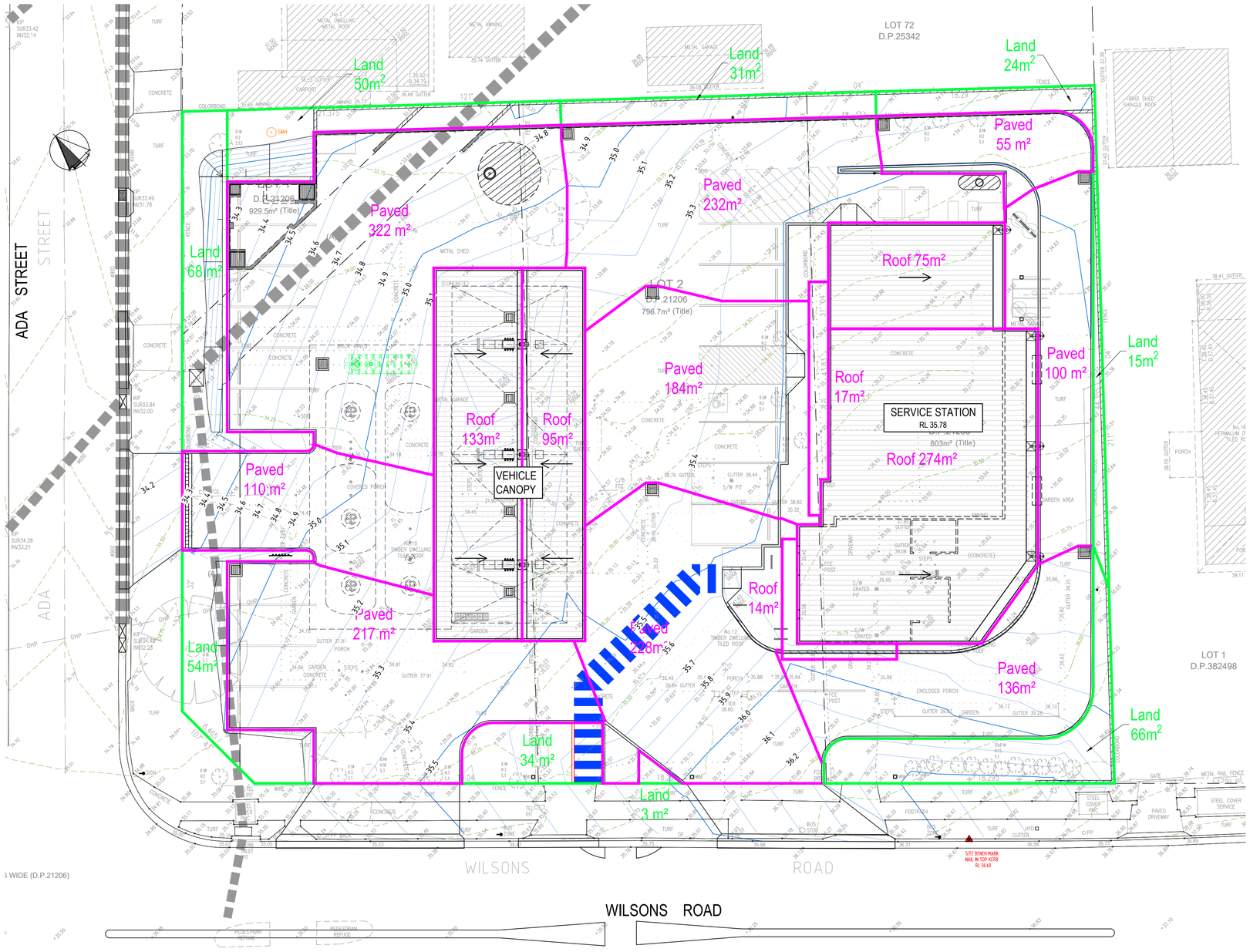
For Brown Commercial Building

SEDIMENT & EROSION CONTROL NOTES

DESIGN	DRAWN	DATE	PROJECT No.
SWH	RCL	SEP 2020	10122
CHECKED	APPROVED	SCALE	DRG No.
		-	C03 - G

STORMWATER DRAINAGE STRATEGY

- ALL GUTTERS & DOWNPIPES ARE DESIGNED TO ACCEPT A 1:20 YEAR ARI STORM EVENT.
- BOX GUTTERS & DOWNPIPES ARE DESIGNED TO ACCEPT A 1:100 YEAR ARI STORM EVENT.
- ALL PITS & PIPES ARE DESIGNED TO ACCEPT A 1:20 YEAR ARI STORM EVENT.
- DESIGN RAINFALL INTENSITIES:
  1:20 YEAR, 5 MIN = 218 mm/hr
  1:100 YEAR, 5 MIN = 308 mm/hr
- ALL PIPES MUST HAVE A MIN. 1.0% FALL, UNO.
- ALL STORMWATER RUNOFF IS DIRECTED TO A SQID PRIOR TO EXITING THE SITE.
- ON-SITE DETENTION HAS BEEN PROVIDED FOR THE DEVELOPMENT AS PER COUNCIL'S REQUIREMENTS
- SQIDs USED ON THIS SITE INDLUDE
  - 2 x RAINWATER TANKS
  - OCEAN PROTECT STORMFILTERS
  - OSD TANK



STORMWATER CATCHMENT AREA PLAN

1:150

- DENOTES STORMWATER CATCHMENT AREA BOUNDARY (IMPERVIOUS)
- DENOTES STORMWATER CATCHMENT AREA BOUNDARY (PERVIOUS)

TOTAL SITE AREA	= 2,538 m²
ROOF AREA	= 608 m²
PAVEMENT AREA	= 1,584 m²
LANDSCAPE AREA	= 345 m²

- DENOTES EXISTING SURVEY CONTOUR
- DENOTES NEW SURFACE LEVEL CONTOUR

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STORMWATER CATCHMENT AREA PLAN

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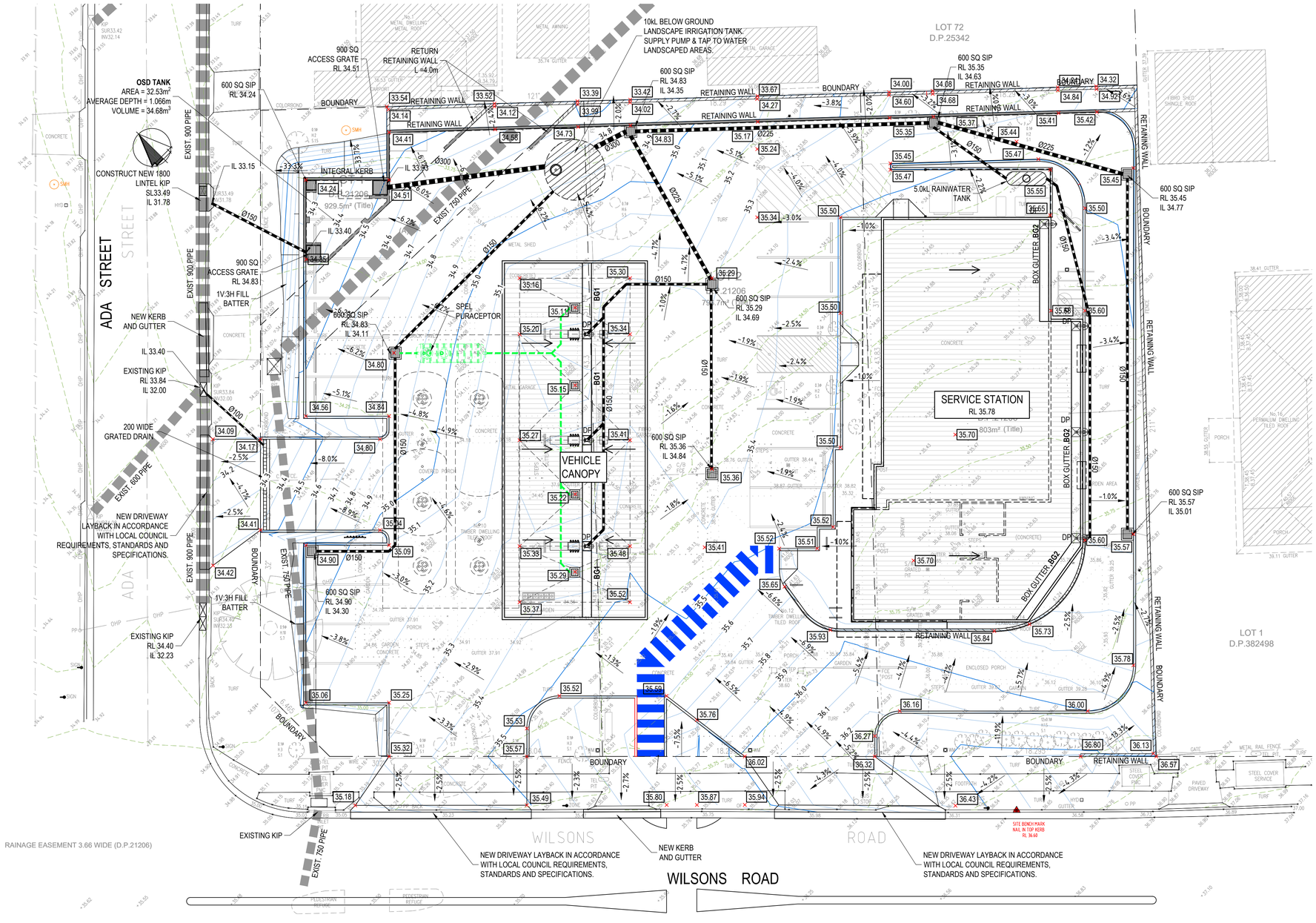
		1:150	C04 - G



STORMWATER DRAINAGE PLAN

1:150

ALL DRAINAGE LINES SHALL BE UPVC (CLASS SH) STORMWATER DRAINAGE PIPE, UNO.
ALL DRAINAGE LINES SHALL BE LAID @ 1% FALL MIN, UNO.
FIRST FLUSH RAINWATER DEVICES TO BE FITTED TO DRAINAGE LINES TO BUILDER'S DETAIL, TYPICAL
MINIMUM EFFECTIVE EAVES GUTTER SIZE = 24,500 mm²
MINIMUM EFFECTIVE EAVES GUTTER SLOPE = 1:500
THE FOLLOWING SYMBOLS & ABBREVIATIONS HAVE BEEN USED:
DP = Ø150 DOWN PIPE
SIP = SURFACE INLET PIT (NO LINTEL)
X 100.00 = PROPOSED FINISHED SURFACE LEVEL

SITE DISCHARGE INDEX SUMMARY

SITE AREA (S) = 2,538 m²
ROOF AREA (R) = 623 m²
PAVED AREA (P) = 1,662 m²
TOTAL IMPERVIOUS, I = R + P = 2,285 m²
MANAGED IMPERVIOUS (M) = 2244 m²
DIRECTLY CONNECTED (DC) = 28 m²

SITE DISCHARGE INDEX, SDI = $\frac{28}{2538}$ = 1.10% < 10%, THEREFORE ACCEPTABLE

SDI REDUCTION MEASURES USED:
- 2 x RAINWATER TANKS

STORMWATER DRAINAGE STRATEGY

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- BOX GUTTERS & DOWNPIPES ARE DESIGNED TO ACCEPT A 1:100 YEAR ARI STORM EVENT.
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- SQIDs USED ON THIS SITE INDLUDE
  - 2 x RAINWATER TANKS
  - OCEAN PROTECT STORMFILTERS
  - OSD TANK

ON-SITE DETENTION DESIGN SUMMARY

SITE DETAILS

SITE AREA	= 2538 m²

PRE-DEVELOPMENT

100% PERVIOUS	
5 YEAR ARI FLOW, Q	= 21.41 L/s

POST DEVELOPMENT

10.5% PERVIOUS	
20 YEAR ARI FLOW (WITHOUT OSD)	= 108.52 L/s
AREA BYPASSING OSD	= 121 m²
20 YEAR BYPASS FLOW	= 5.78 L/s

OSD REQUIREMENTS

STORAGE VOLUME REQUIRED	= 27.9 m³
STORAGE VOLUME PROVIDED	= 29.9m³
ORIFICE SIZE	= 90 mm
DISCHARGE FLOW	= 15.63 L/s
TOTAL DISCHARGE FLOW	= 5.78 L/s + 15.63 L/s = 21.41 L/s ∴ OK

WATER QUALITY DESIGN SUMMARY

A MUSIC MODEL INCORPORATING THE LAKE MACQUARIE MUSIC-LINK DATA HAS BEEN PREPARED TO DETERMINE THE EFFECTIVENESS OF WATER QUALITY TREATMENT DEVICES.

TREATMENT EFFECTIVENESS SUMMARY

	SOURCES	RESIDUAL LOAD	REDUCTION %	TARGET %
FLOW (ML/yr)	2.54	2.45	3.3	-
TOTAL SUSPENDED SOLIDS (kg/yr)	357	56.7	84.1	80
TOTAL PHOSPHORUS (kg/yr)	0.647	0.292	54.8	45
TOTAL NITROGEN (kg/yr)	5.51	2.79	49.3	45
GROSS POLLUTANTS (kg/yr)	60.20	0	100	100

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AT ORIGINAL SIZE

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STORMWATER DRAINAGE PLAN

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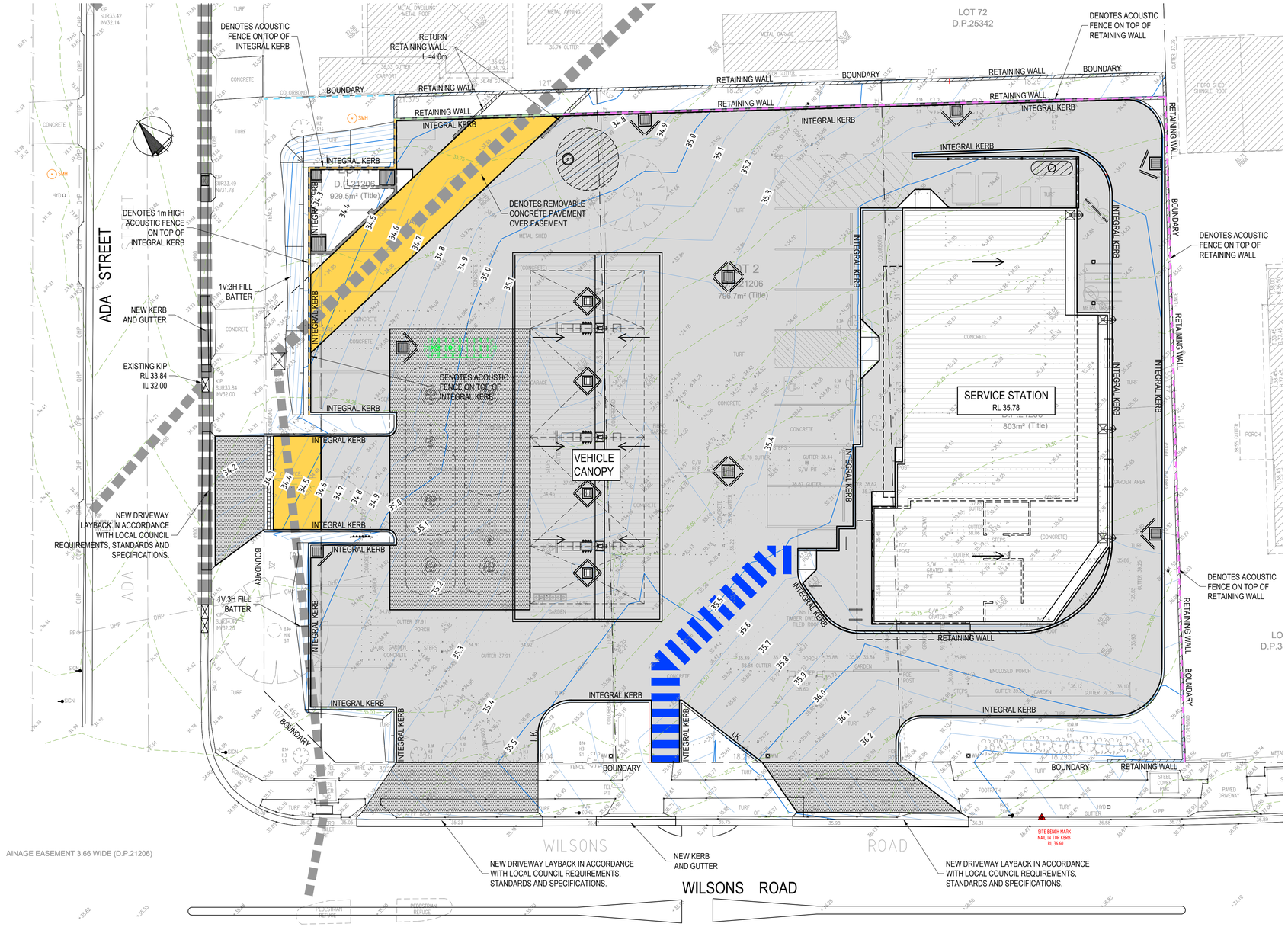
SWH	RCL	SEP 2020	10122
CHECKED	APPROVED	SCALE 1:150	DRG No. C05 - G



EXTERNAL PAVEMENT LAYOUT PLAN

1:150

DENOTES **150 THICK SLAB** WITH **SL82 MESH TOP** THROUGHOUT
CONCRETE STRENGTH = **32 MPa**

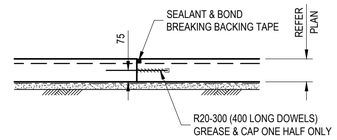
DENOTES **200 THICK SLAB** WITH **SL92 MESH TOP & BOTTOM** THROUGHOUT
CONCRETE STRENGTH = **32 MPa**

DENOTES **200 THICK** REMOVABLE CONCRETE PAVEMENT OVER EASEMENT

2-N12 (75 SPACING 1200 LONG) TRIMMERS TOP SHALL BE LOCATED 50 FROM ALL RE-ENTRANT CORNERS, TYPICAL U.N.O.

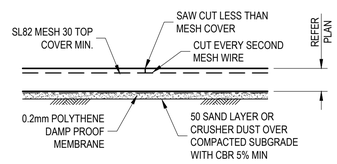
REINFORCEMENT COVER TO GROUND FLOOR SLAB SHALL BE AS FOLLOWS:
- 40mm - TO UNPROTECTED GROUND
- 40mm - EXTERNAL EXPOSURE
- 30mm - TO A MEMBRANE IN CONTACT WITH GROUND
- 30mm - INTERNAL EXPOSURE

DENOTES EXTENT OF 1.8m HIGH ACOUSTIC FENCE
DENOTES EXTENT OF 1.8m to 1.0m HIGH ACOUSTIC FENCE
DENOTES EXTENT OF 1.0m HIGH ACOUSTIC FENCE
DENOTES EXTENT OF 1.0m HIGH RESIDENTIAL TIMBER FENCE



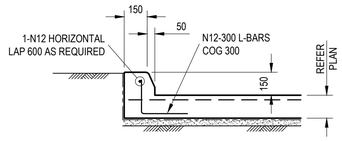
CONSTRUCTION JOINT (C.J.) DETAIL

1:20



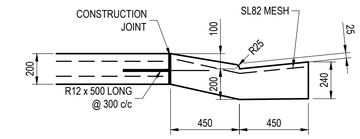
SAWN JOINT (S.J.) DETAIL

1:20



INTEGRAL KERB DETAIL

1:20



TYPICAL HEAVY DUTY LAYBACK DETAIL

1:20

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EXTERNAL PAVEMENT SLAB PLAN & DETAILS

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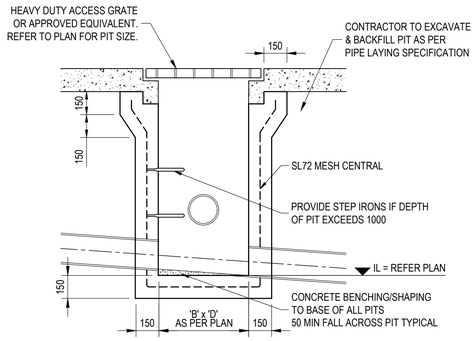
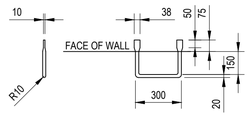
		1:150, 1:20	C06 - G



TYPICAL SURFACE INLET PIT DETAIL

1:20

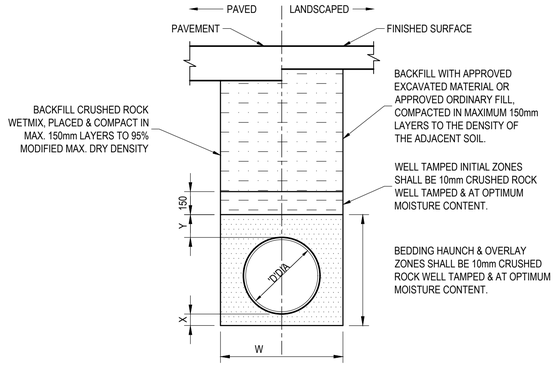
TYPICAL FOR ALL PITS IN DRIVEWAY/CARPARK AREAS.



STEP IRONS FOR DRAINAGE PITS
NOTE:
1. FIRST RUNG 150mm DOWN FROM TOP, THEN SPACED AT 300 CENTRES.
2. STEP IRON MATERIAL, 20m DIAMETER MILD STEEL, HEAVY GALVANISED.

STEP IRONS FOR DRAINAGE PITS

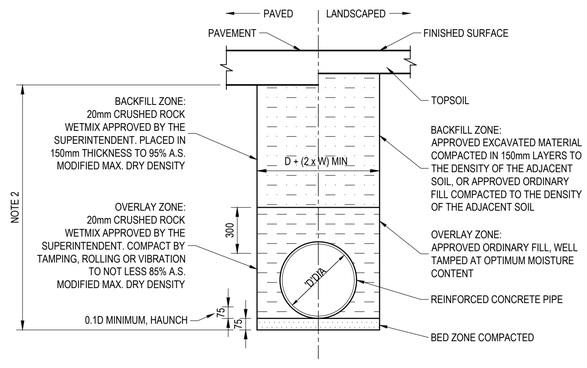
1:20



NOTE:
1 REFER TO PIPE LAYING SPECIFICATIONS FOR DETAILS.

PIPE DIA 'D'	W	X MIN	Y
100-150	300	75	75
225-300	600	75	75

UPVC PIPE



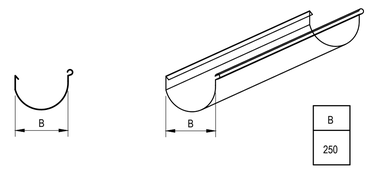
NOTE:
1 REFER TO PIPE LAYING SPECIFICATION FOR DETAILS.
2 BACKFILL OVERLAY & BEDDING ZONES 20mm CRUSHED ROCK COMPACT BY TAMPING ROLLING OR VIBRATION TO NOT LESS THAN 85% A.S. STD. MAX. DRY DENSITY.

D	W
150-300	150
375-750	300
+750	600

REINFORCED CONCRETE PIPE

TYPICAL PIPE LAYING DETAIL

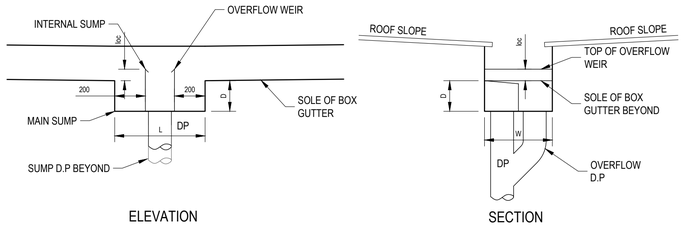
1:20



TYPICAL EAVES GUTTER DETAIL

NTS

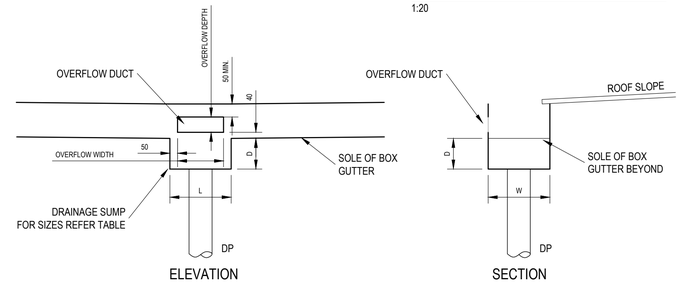
SPECIFICATIONS			
GUTTER TYPE	TYPE	TOTAL CROSS SECTION AREA (mm²)	DOWNPIPE SIZE
250 HALF ROUND	STANDARD	24500	Ø150



TYPICAL BOX GUTTER DETAIL WITH VERTICAL SUMP OVERFLOW

1:20

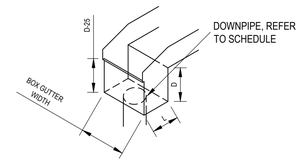
BOX GUTTER, RAINWATER HEAD & SUMP SIZING SCHEDULE					
NODE	BOX GUTTER SIZE	RAINWATER HEAD SIZE	SUMP SIZE	loc (mm)	DOWNPIPE Ø mm
BG1	600 W x 150 D	N/A	600 L x 200 D	20mm	150



TYPICAL BOX GUTTER DETAIL WITH SUMP OVERFLOW

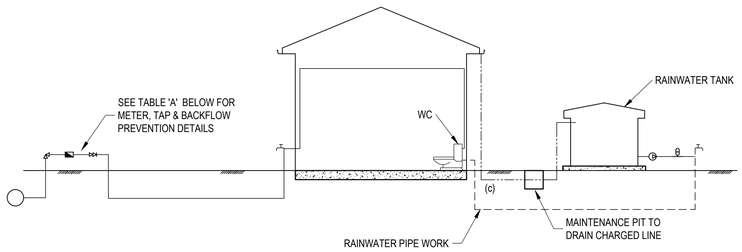
1:20

BOX GUTTER, RAINWATER HEAD & SUMP SIZING SCHEDULE					
NODE	BOX GUTTER SIZE	RAINWATER HEAD SIZE	SUMP SIZE	OVERFLOW TO SUMP	DOWNPIPE Ø mm
BG2	600 W x 150 D	600 D x 300 L	600 L x 200 D	300 W x 120 D	150



RAINWATER HEAD SECTION

NTS



LEGEND

- PRESSURE VESSEL
- METER
- BALL VALVE RIGHT ANGLE TYPE
- DUAL CHECK VALVE
- PUMP
- GARDEN TAP
- DRINKING WATER SUPPLY PIPES
- RAINWATER SUPPLY PIPES
- DOWN PIPES

TABLE A			
RAINWATER TANK LOCATION	METER SIZE (mm)	TYPE OF TAP	TYPE OF BACKFLOW PREVENTION
ABOVE GROUND	20	BALL VALVE	DUAL CHECK VALVE (COMBINED WITH METER)
	25	BALL VALVE	DUAL CHECK VALVE
	≥ 32	BALL VALVE	DUAL CHECK VALVE
BELOW GROUND	20	BALL VALVE	TESTABLE DOUBLE CHECK VALVE
	25	BALL VALVE	TESTABLE DOUBLE CHECK VALVE
	≥ 32	BALL VALVE	TESTABLE DOUBLE CHECK VALVE

DIAGRAM NOTES:
DRAWING TO BE READ IN CONJUNCTION WITH SYDNEY WATER PLUMBING REQUIREMENTS

1. FOR TANKS 10,000 LITRES OR LESS, COUNCIL DEVELOPMENT CONSENT IS NOT REQUIRED, IF THEIR CONDITIONS FOR INSTALLATION ARE FOLLOWED.
2. FOR TANKS GREATER THAN 10,000 LITRES COUNCIL DEVELOPMENT CONSENT IS GENERALLY REQUIRED.
3. FOR TANKS MORE THAN 10,000 LITRES APPROVAL IS REQUIRED FOR BUILDING OVER SEWERS.
4. SYDNEY WATER'S APPROVAL IS REQUIRED FOR ANY TOP UP FROM DRINKING WATER SUPPLY, REGARDLESS OF TANK SIZE.
5. NO DIRECT CONNECTION IS ALLOWED BETWEEN THE DRINKING WATER SUPPLY AND THE RAINWATER TANK SUPPLY.
6. RAINWATER PIPEWORK IS SHOWN ON THE DIAGRAM AS SUPPLYING INTERNAL RAINWATER USES.
7. ANY DESIGNED ACCESS LID INTO RAINWATER RE-USE TANK IS TO HAVE A LOCKABLE LID. IF THE LID IS DESIGNED TO BE ACCESSED BY A MAINTENANCE PERSON, IT MUST BE AT LEAST 600 mm x 900 mm IN SIZE.
8. MAINS WATER TO BYPASS TO TANK (BY PLUMBER) FOR LOW TANK STORAGE.

DUAL WATER & RAINWATER SUPPLY DIAGRAM

N.T.S.
THE RAINWATER TANK SHALL BE INSTALLED WITH A FIRST FLUSH DEVICE TO SUPPLIERS DETAILS
MAINTENANCE PIT TO BE CONSTRUCTED TO DRAIN CHARGED LINE AS REQUIRED

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A1 ORIGINAL SIZE

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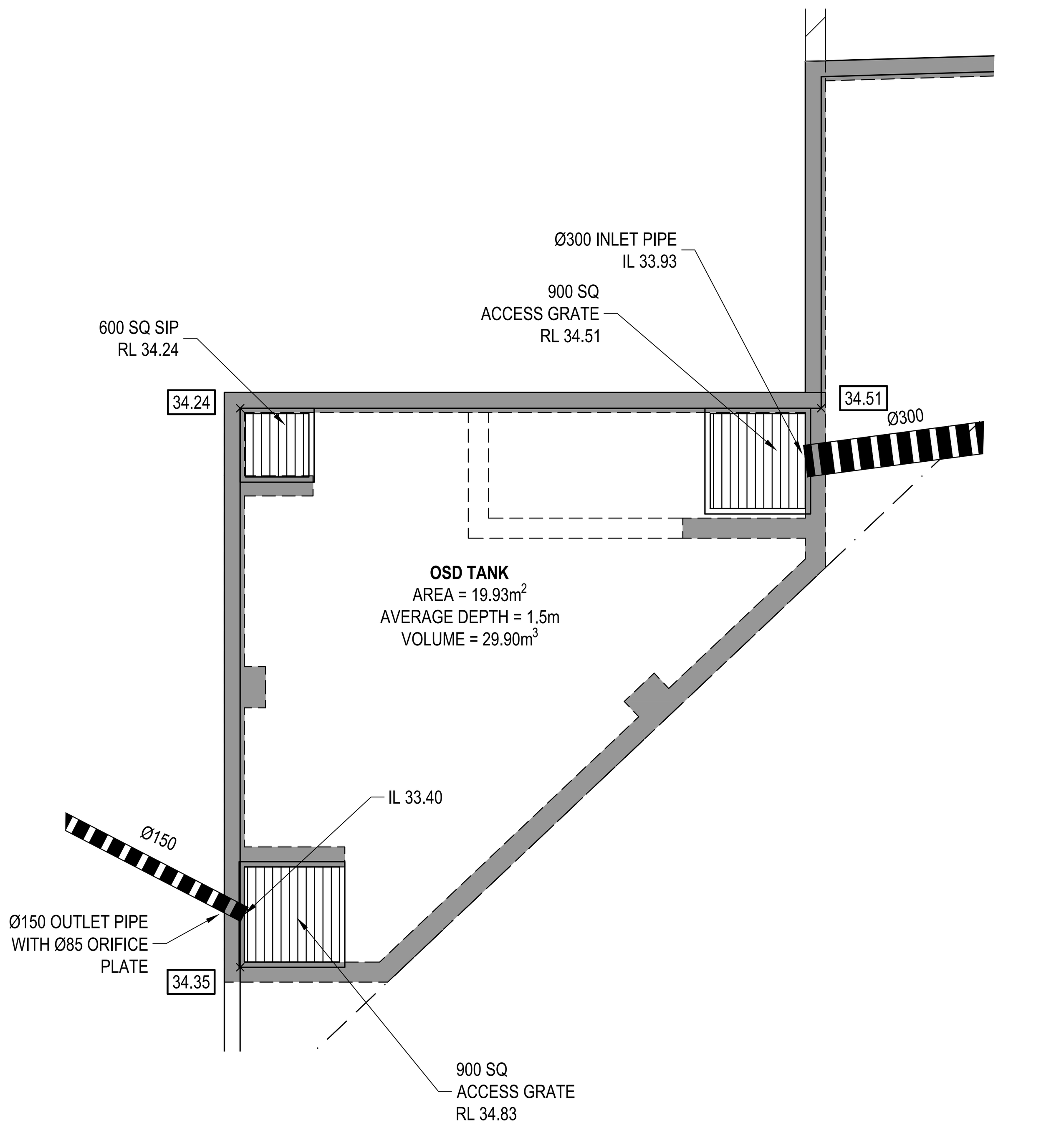
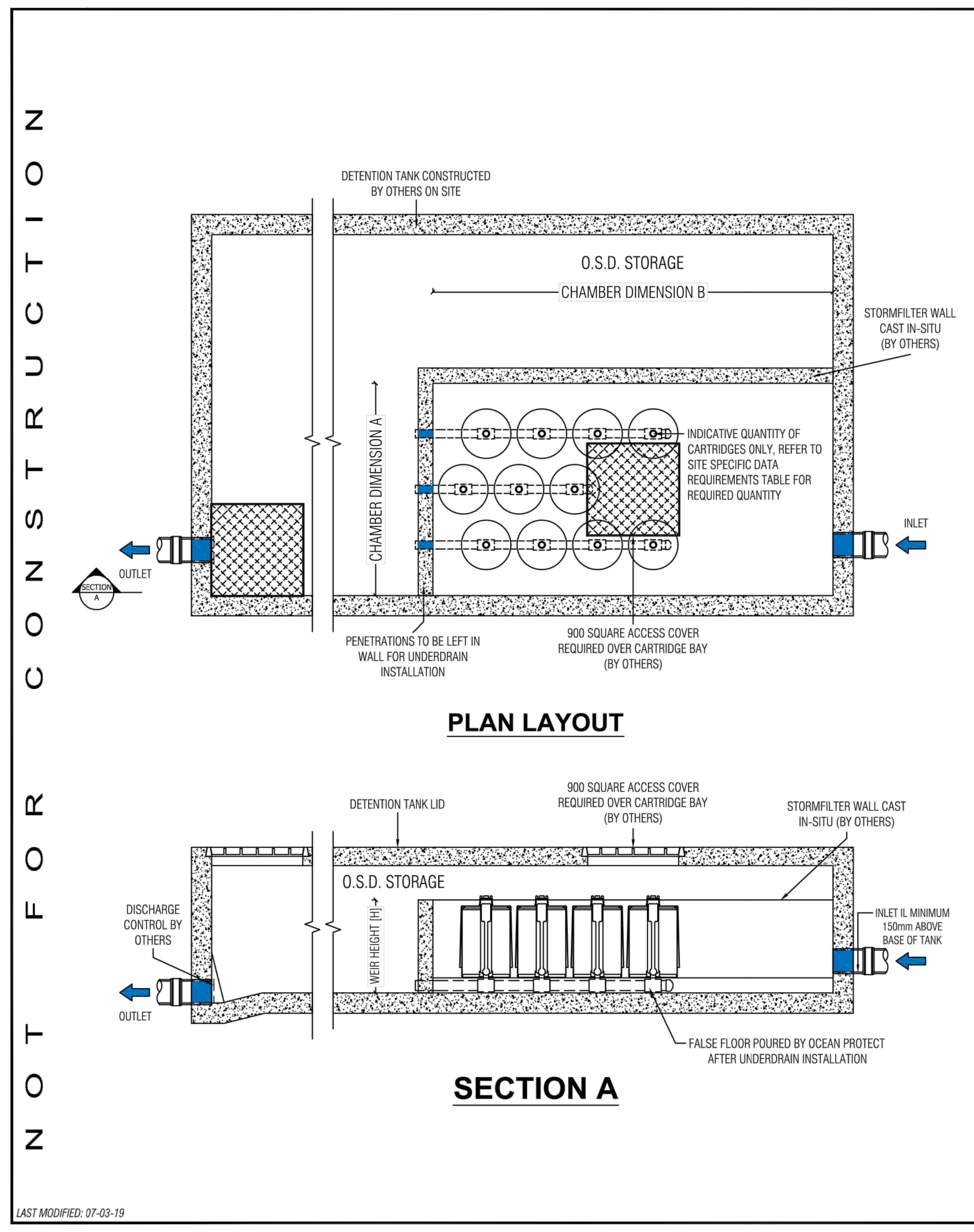
STORMWATER DETAILS SHEET 1 OF 2

DESIGN	DRAWN	DATE	PROJECT No.
SWH	RCL	SEP 2020	10122
CHECKED	APPROVED	SCALE	DRG No.
		1:20	C07 - G



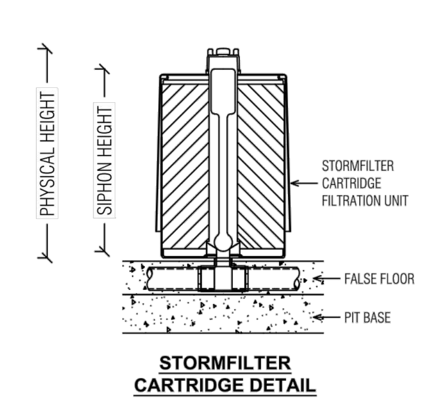
OSD TANK SLAB LAYOUT PLAN
1:50



STORMFILTER DESIGN TABLE

- STORMFILTER TREATMENT CAPACITY VARIES BY NUMBER OF FILTER CARTRIDGES INSTALLED.
- THE STANDARD CONFIGURATION IS SHOWN. ACTUAL CONFIGURATION OF THE SPECIFIED STRUCTURE(S) PER CERTIFYING ENGINEER WILL BE SHOWN ON SUBMITTAL DRAWING(S).
- FILTER CARTRIDGES SHALL BE MEDIA-FILLED, PASSIVE, SIPHON ACTUATED, RADIAL FLOW, AND SELF-CLEANING. RADIAL MEDIA DEPTH SHALL BE 178mm.

CARTRIDGE NAME / SIPHON HEIGHT (mm)	690	460	310
CARTRIDGE PHYSICAL HEIGHT (mm)	840	600	600
TYPICAL WEIR HEIGHT [H] (mm)	920	690	540
CARTRIDGE FLOW RATE FOR ZPG MEDIA (L/s)	1.6	1.1	0.7
CARTRIDGE FLOW RATE FOR PSORB MEDIA (L/s)	0.9	0.46	0.39



SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	[ ]
NUMBER OF CARTRIDGES REQ'D	[ ]
SIPHON HEIGHT (310 / 460 / 690)	[ ]
MEDIA TYPE (ZPG / PSORB)	[ ]
WATER QUALITY FLOW RATE (L/S)	[ ]
DIMENSION A	[ ]
DIMENSION B	[ ]

TOTAL CARTRIDGE BAY AREA (A x B) TO MATCH AREA REQUIRED BY MUSIC MODELLING OR COUNCIL SPECIFIC REQUIREMENTS

GENERAL NOTES

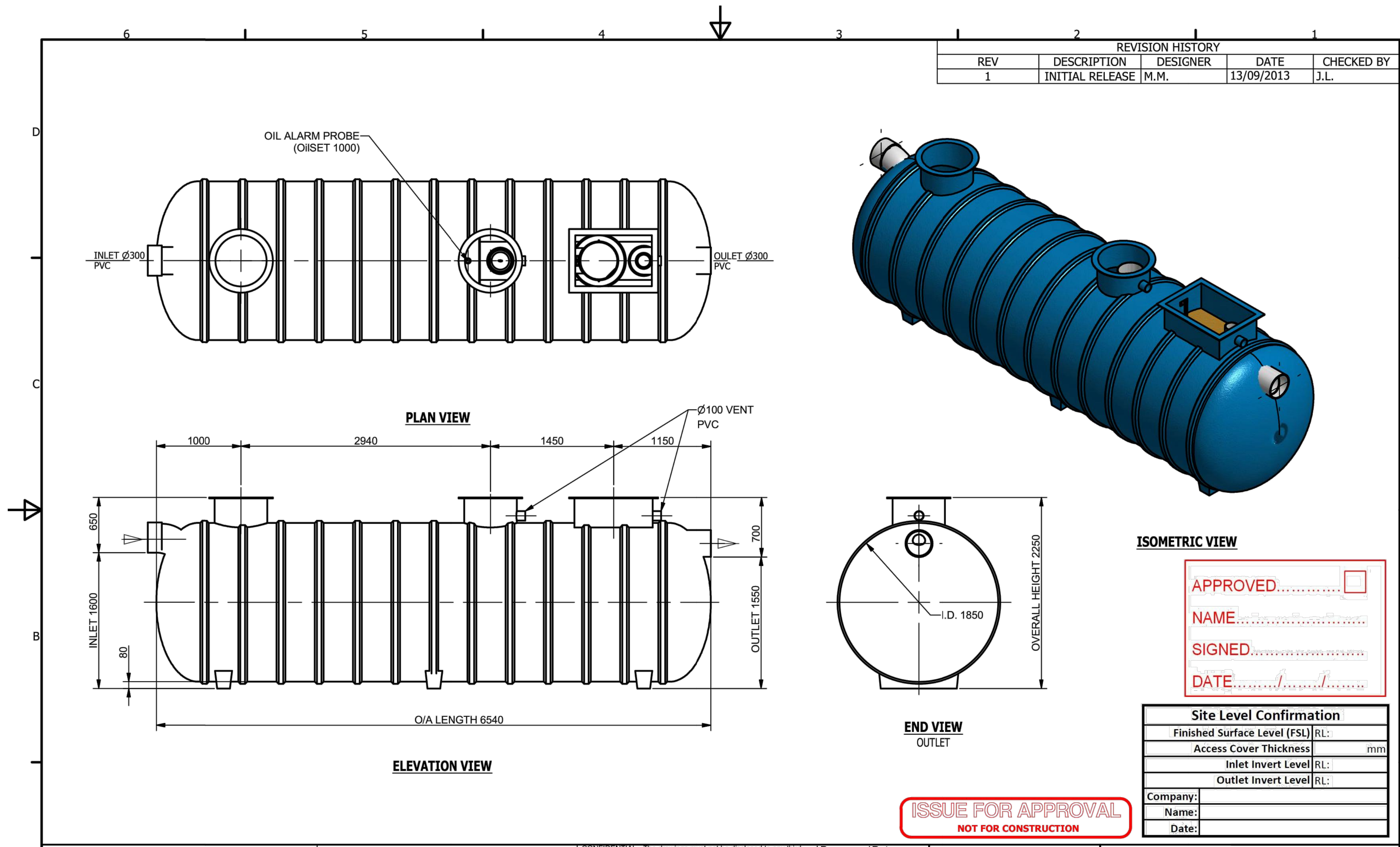
1. INLET AND OUTLET PIPES TO BE IN ACCORDANCE WITH APPROVED PLANS.
2. A HIGH FLOW BYPASS ARRANGEMENT OR DISSIPATION STRUCTURE MAY BE REQUIRED TO MINIMISE RE-SUSPENSION OF SOLIDS OR ANY SIGNIFICANT INERTIAL FORCES ON THE CARTRIDGES.
3. ALL WATER QUALITY TREATMENT DEVICES REQUIRE PERIODIC MAINTENANCE. REFER TO OPERATION AND MAINTENANCE MANUAL FOR GUIDELINES AND ACCESS REQUIREMENTS.
4. SITE SPECIFIC PRODUCTION DRAWING WILL BE PROVIDED ON PLACEMENT OF ORDER.
5. THE INVERT LEVEL OF THE INLET PIPE MUST BE GREATER THAN THE RL OF THE FALSE FLOOR WITHIN THE CARTRIDGE CHAMBER.
6. CONCRETE STRUCTURE AND ACCESS COVERS DESIGNED AND PROVIDED BY OTHERS. ACCESS COVERS TO BE A MINIMUM 900 X 900 ABOVE CARTRIDGES. OH&S REGARDING ACCESS COVERS AND TANK ACCESS TO BE ASSESSED BY OTHERS ON SITE.
7. THE STRUCTURE THICKNESSES SHOWN ARE FOR REPRESENTATIONAL PURPOSES.
8. DRAWINGS NOT TO SCALE.

INSTALLATION NOTES

1. UNDERDRAIN AND FALSE FLOOR INSTALLED BY OCEAN PROTECT.

PHONE: 1300 354 722 www.oceanprotect.com.au

OCEAN PROTECT
STORMFILTER SYSTEM
DETENTION TANK ARRANGEMENT
SPECIFICATION DRAWING



Site Level Confirmation	
Finished Surface Level (FSL)	RL:
Access Cover Thickness	mm
Inlet Invert Level	RL:
Outlet Invert Level	RL:
Company:	
Name:	
Date:	

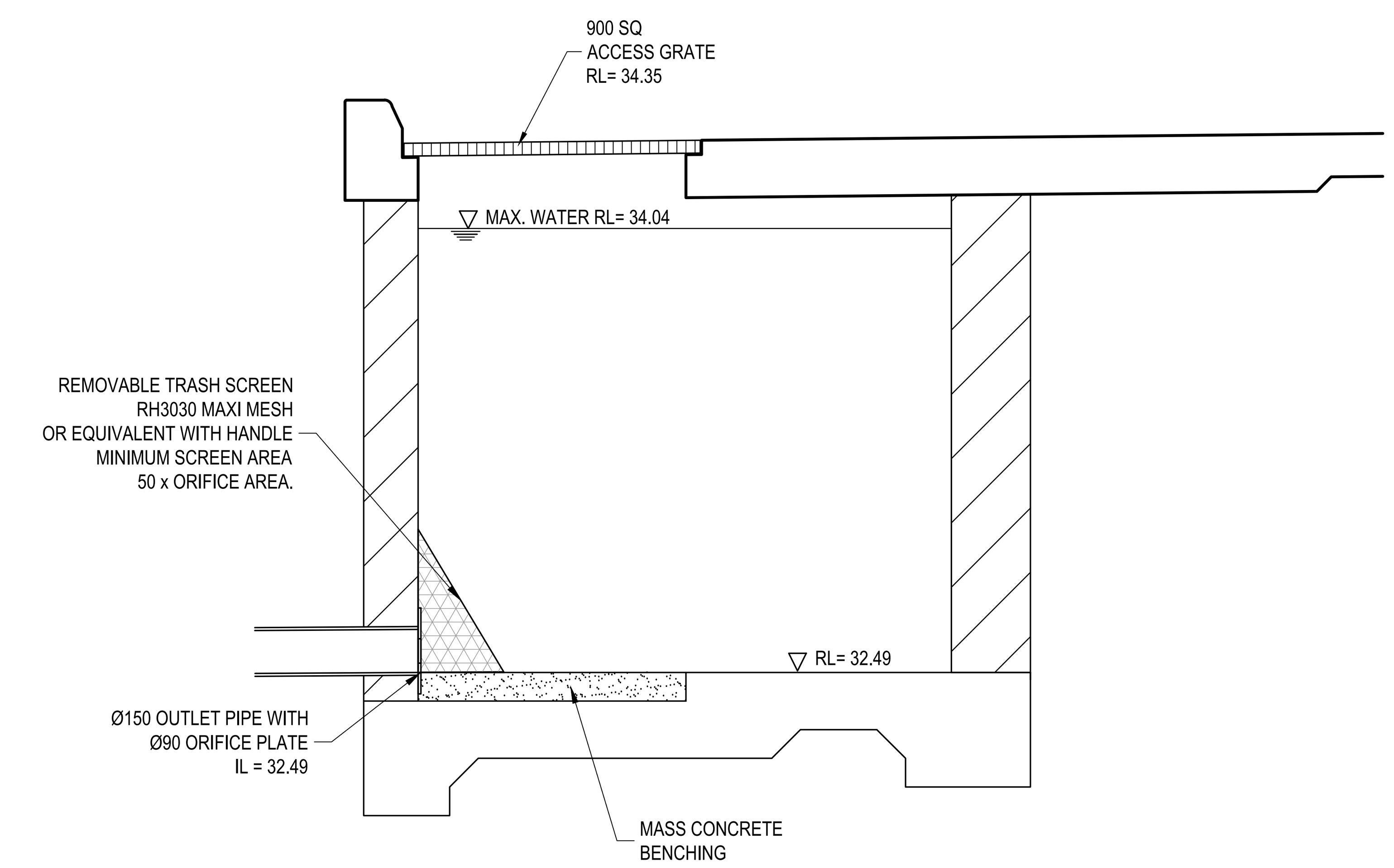
ISSUE FOR APPROVAL
NOT FOR CONSTRUCTION

CLIENT:
DISTRIBUTOR:

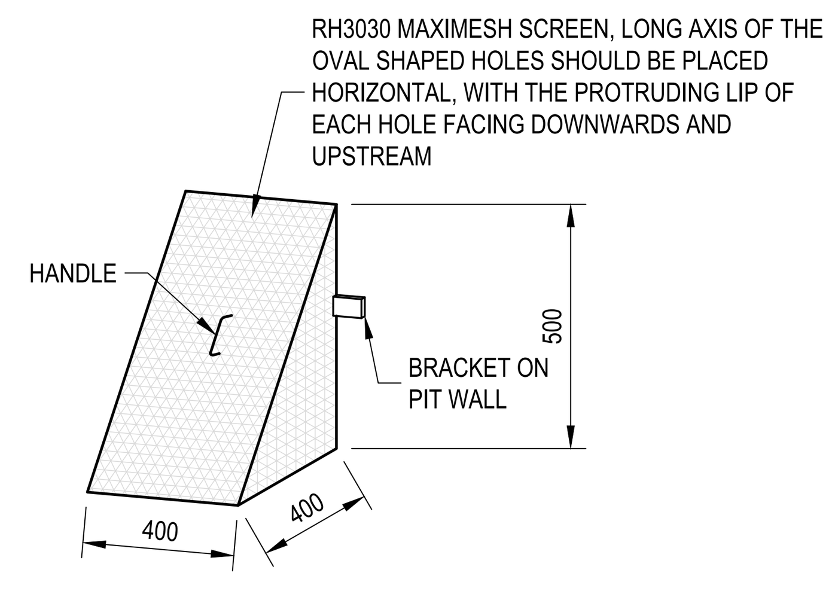
SPEL ENVIRONMENTAL
INTEGRATED WATER SOLUTIONS

TITLE: SPEL PURACEPTOR P.040.C1.2C.A.300 GENERAL ARRANGEMENT

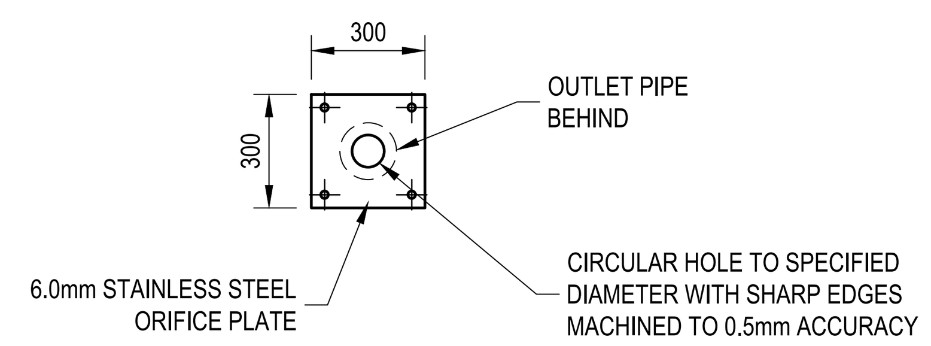
SCALE N.T.S — DWG No. SP13-PC1560-S



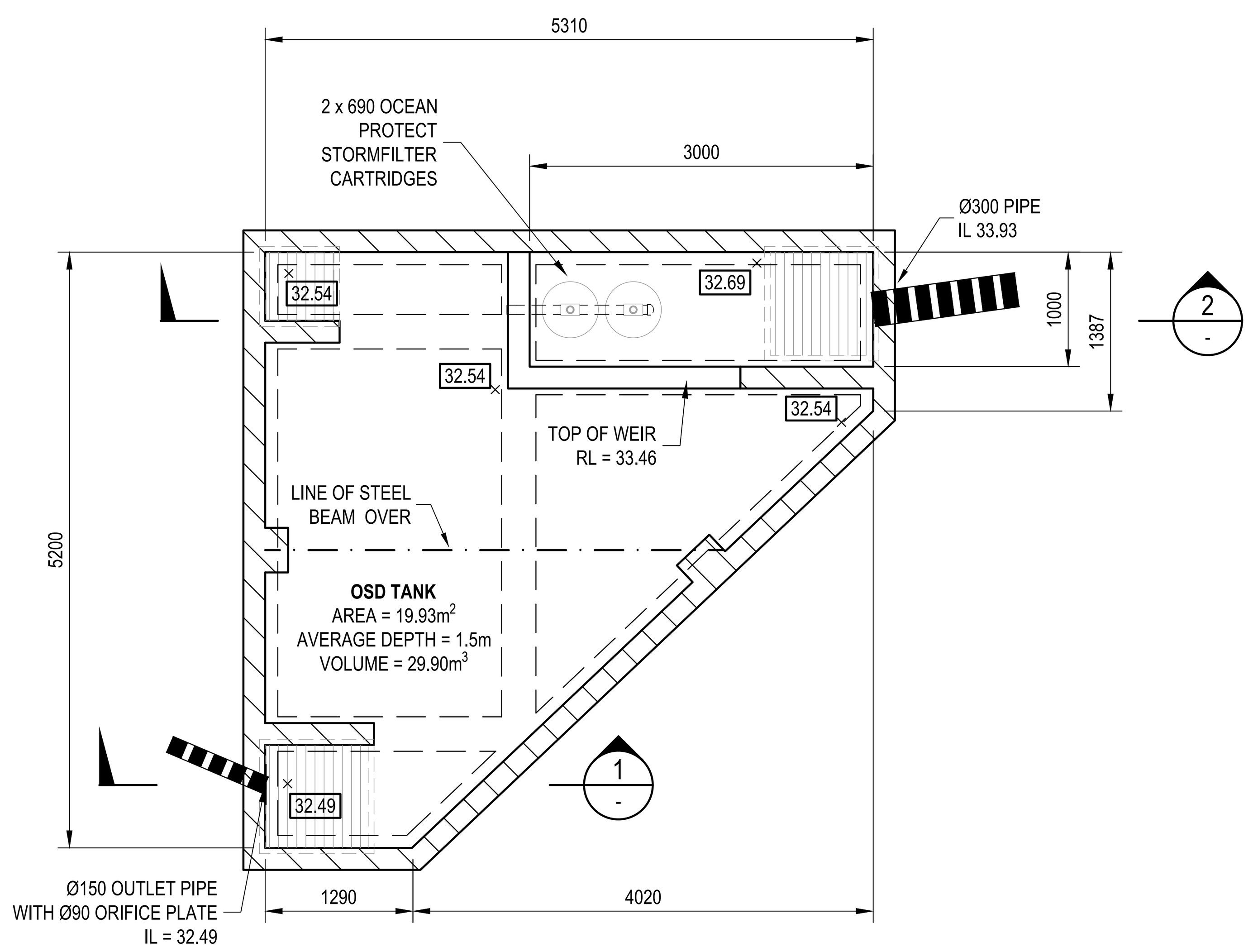
SECTION 1
1:20



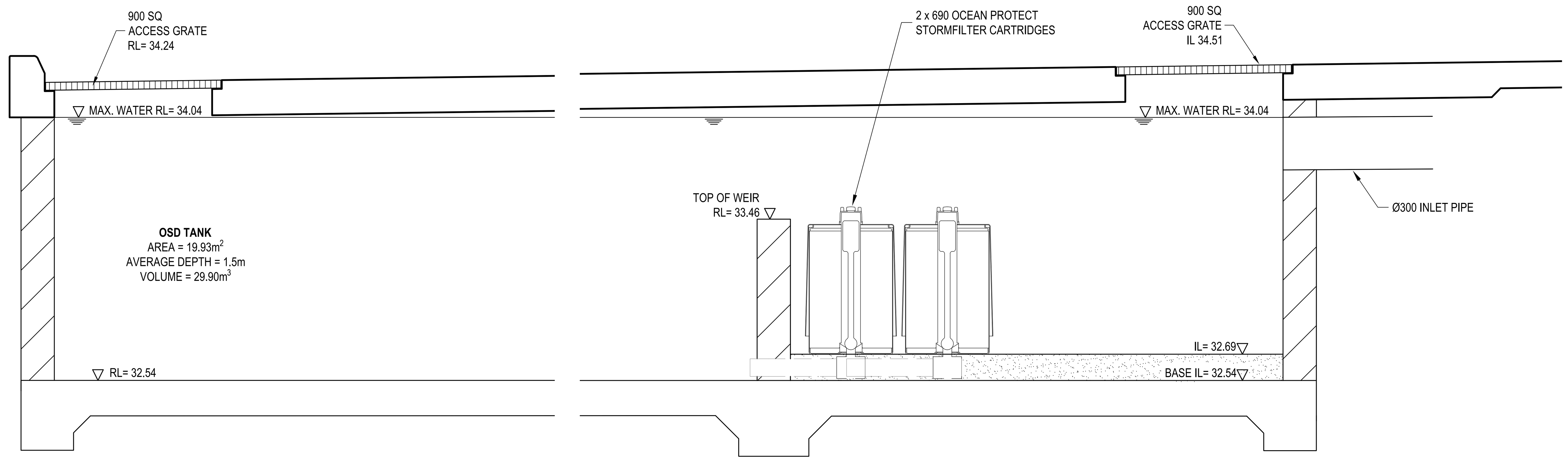
STANDARD TRASH SCREEN
NTS



ORIFICE PLATE DETAIL
1:20



OSD TANK BASE SLAB PLAN
1:50



SECTION 2
1:20

A1 ORIGINAL SIZE

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REVISION	DATE	AMENDMENT DESCRIPTION
G	01.03.22	RE-ISSUED FOR APPROVAL
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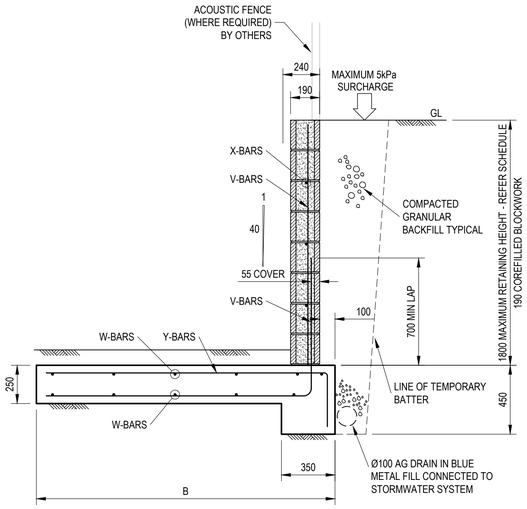
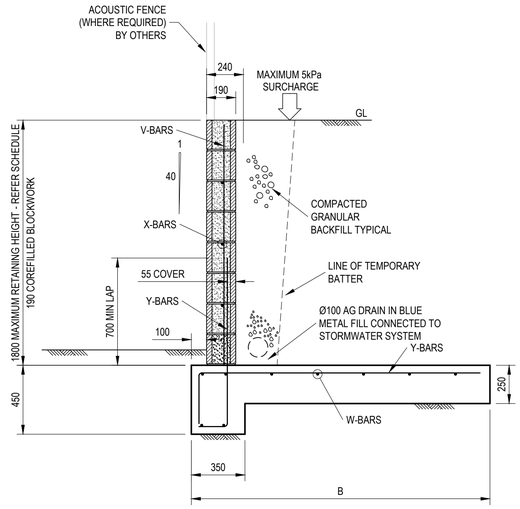
STORMWATER DETAILS SHEET 2 OF 2

DESIGN	DRAWN	DATE	PROJECT No.
SWH	RCL	SEP 2020	10122
CHECKED	APPROVED	SCALE 1:20, 1:50	DRG No. C08 - G



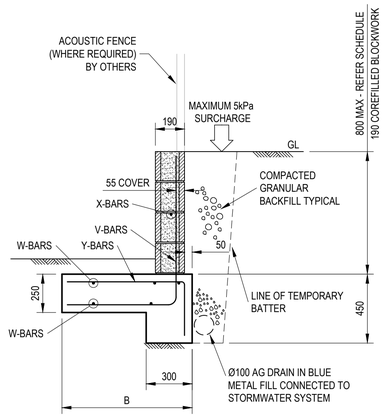
800 to 1800 HIGH RETAINING HEIGHT					
HEIGHT	B	V-BARS	W-BARS	X-BARS	Y-BARS
800	1150	N12-400	N12-300	N12-400	N16-400
1000	1350	N12-400	N12-300	N12-400	N16-400
1200	1550	N12-400	N12-300	N12-400	N16-400
1400	1750	N16-400	N12-300	N12-400	N16-400
1600	1950	N16-400	N12-300	N16-400	N16-400
1800	2150	N16-400	N16-400	N16-400	N16-400



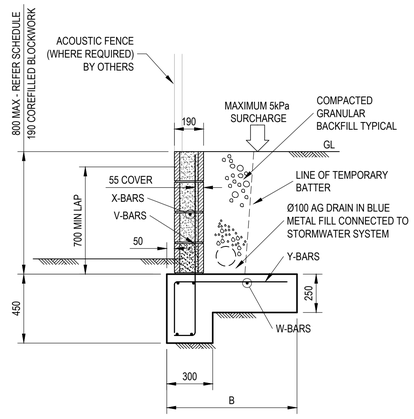
800 to 1800 HIGH RETAINING HEIGHT					
HEIGHT	B	V-BARS	W-BARS	X-BARS	Y-BARS
800	1150	N12-400	N12-300	N12-400	N12-400
1000	1350	N12-400	N12-300	N12-400	N12-400
1200	1550	N12-400	N12-300	N12-400	N12-400
1400	1750	N16-400	N12-300	N12-400	N16-400
1600	1950	N16-400	N12-300	N12-400	N16-400
1800	2150	N16-400	N16-300	N16-400	N16-200

TYPICAL EXTERNAL BLOCKWORK RETAINING WALL DETAILS (800 TO 1800)

1:20



400 to 800 HIGH RETAINING HEIGHT					
HEIGHT	B	V-BARS	W-BARS	X-BARS	Y-BARS
400	650	N12-400	N12-300	N12-400	N16-400
600	850	N12-400	N12-300	N12-400	N16-400
800	1150	N12-400	N12-300	N12-400	N16-400



400 to 800 HIGH RETAINING HEIGHT					
HEIGHT	B	V-BARS	W-BARS	X-BARS	Y-BARS
400	650	N12-400	N12-300	N12-400	N12-400
600	850	N12-400	N12-300	N12-400	N12-400
800	1150	N12-400	N12-300	N12-400	N12-400

TYPICAL EXTERNAL BLOCKWORK RETAINING WALL DETAILS (400 TO 800)

1:20

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A1 ORIGINAL SIZE

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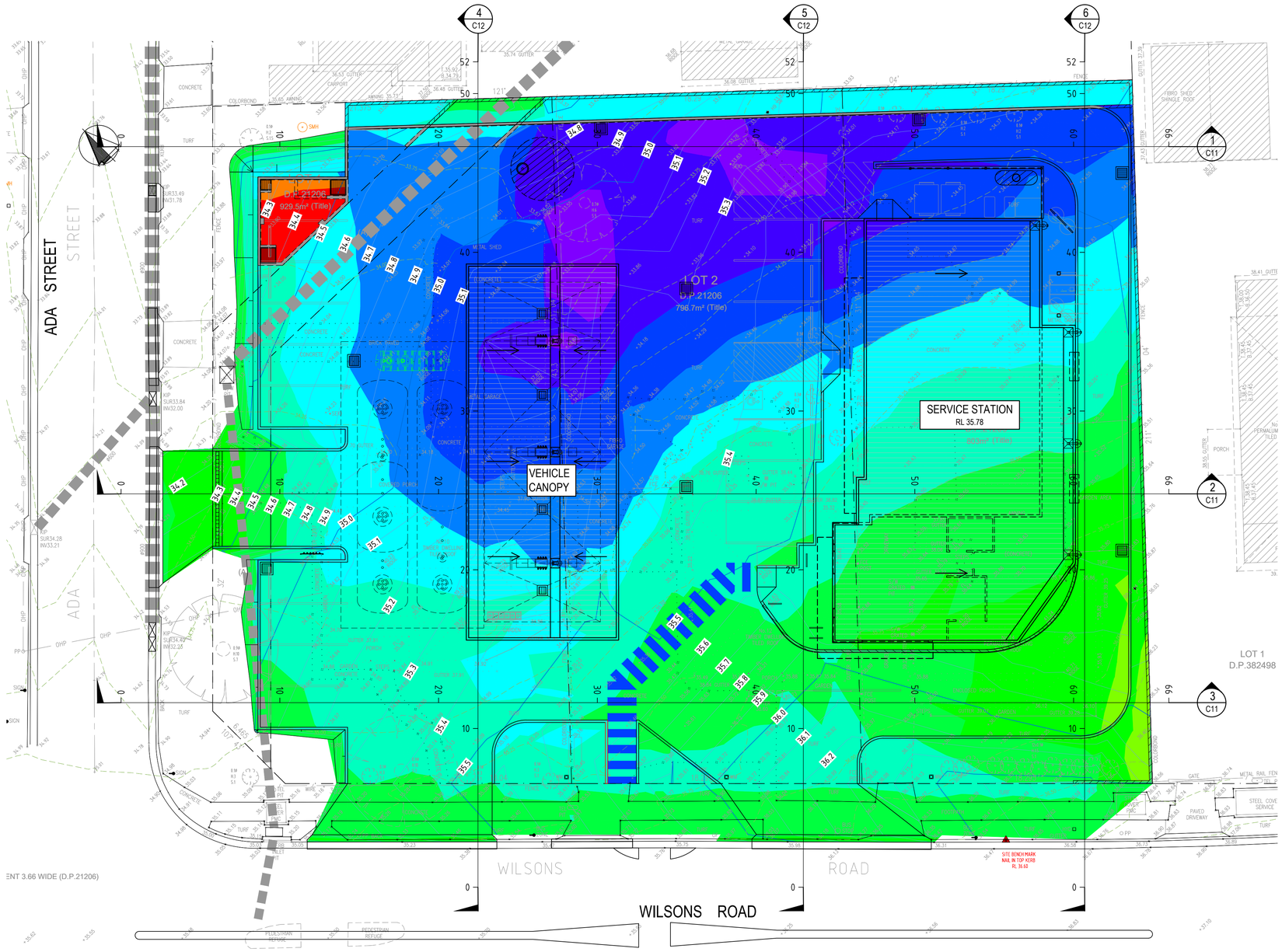
BLOCKWORK RETAINING WALL DETAILS

DESIGN	DRAWN	DATE	PROJECT No.
SWH	RCL	SEP 2020	10122
CHECKED	APPROVED	SCALE	DRG No.
		1:150, 1:20	C09 - G



BULK EARTHWORKS CUT AND FILL PLAN

1:150

Cut/Fill Summary

Name	Cut Factor	Fill Factor	2D Area	Cut	Fill	Net
bulk earthworks cut and fill - proposed less 0.2m	1.000	1.000	2654.361sq.m	161.496 Cu. M.	1005.619 Cu. M.	844.123 Cu. M.<Fill>
Totals			2654.361sq.m	161.496 Cu. M.	1005.619 Cu. M.	844.123 Cu. M.<Fill>

Range Details

Scale scheme to fit

ID	Minimum Elevation	Maximum Elevation	Color Scheme
1	-2.000m	-1.750m	
2	-1.750m	-1.500m	
3	-1.500m	-1.250m	
4	-1.250m	-1.000m	
5	-1.000m	-0.750m	
6	-0.750m	-0.500m	
7	-0.500m	-0.250m	
8	-0.250m	0.000m	
9	0.000m	0.250m	
10	0.250m	0.500m	
11	0.500m	0.750m	
12	0.750m	1.000m	
13	1.000m	1.250m	
14	1.250m	1.500m	

CUT
FILL

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BULK EARTHWORKS CUT AND FILL PLAN

DESIGN	DRAWN	DATE	PROJECT No.
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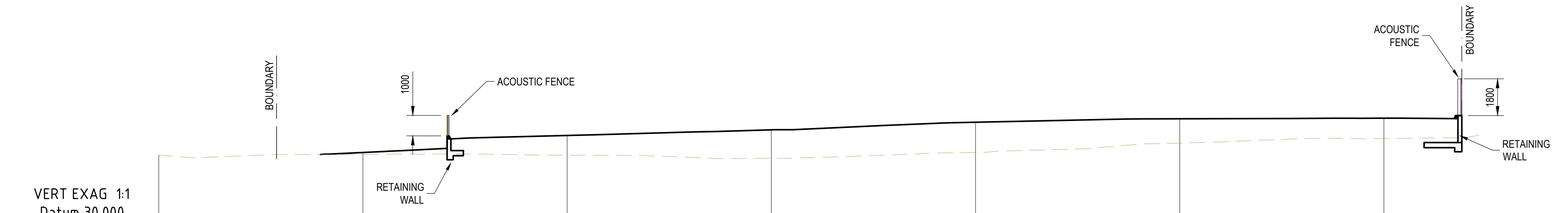
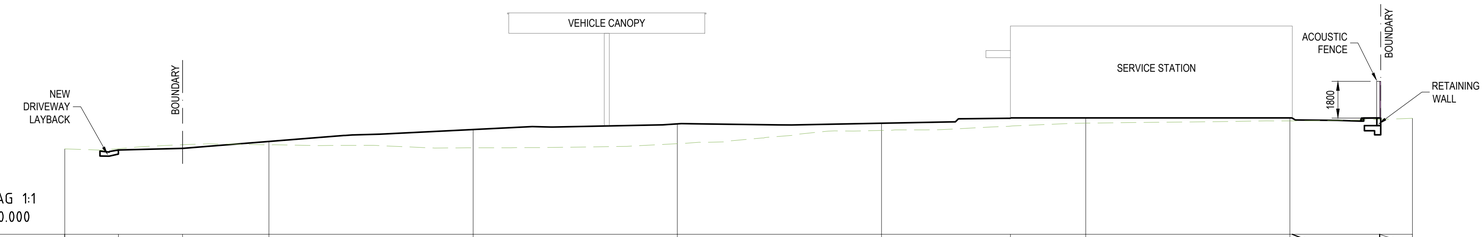
CHECKED	APPROVED	SCALE	DRG No.
		1:150	C10 - G



VERT EXAG 1:1
Datum 30.000

DESIGN LEVELS			33.680	33.782	34.615	34.891	35.264	35.431	35.462	35.595	
EXISTING LEVELS	33.651	33.684	33.676	33.687	33.651	33.498	33.782	34.244	34.467	34.509	
DEPTH			0.004	0.095	0.964	1.394	1.482	1.187	0.995	1.085	
CHAINAGE	0.000	5.769	7.918	10.000	20.000	30.000	40.000	50.000	60.000	63.816	66.000

SITE CROSS SECTION 1
1:150 — C11



VERT EXAG 1:1
Datum 30.000

DESIGN LEVELS		34.128	34.207	34.545	35.130	35.406	35.438	35.700	35.700	35.700	35.699	
EXISTING LEVELS	34.184	34.193	34.389	34.377	34.235	34.438	35.086	35.296	35.442	35.552	35.625	35.682
DEPTH		-0.065	-0.182	0.168	0.895	0.969	0.353	0.404	0.258	0.148	0.074	
CHAINAGE	0.000	2.627	5.769	10.000	20.000	30.000	40.000	46.313	50.000	60.000	64.396	66.000

SITE CROSS SECTION 2
1:150 — C11

VERT EXAG 1:1
Datum 30.000

DESIGN LEVELS			34.883	35.070	35.364	35.554	35.875	36.010	35.844	35.979	
EXISTING LEVELS	34.738	34.821	34.883	34.908	34.953	35.313	35.825	35.963	36.056	36.334	36.368
DEPTH			0.000	0.162	0.411	0.241	0.051	0.047	-0.211	-0.354	
CHAINAGE	0.000	5.769	8.182	10.000	20.000	30.000	40.000	50.000	60.000	64.808	66.000

SITE CROSS SECTION 3
1:150 — C11

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D	12.04.21	RE-ISSUED FOR APPROVAL
C	26.03.21	ISSUED FOR APPROVAL

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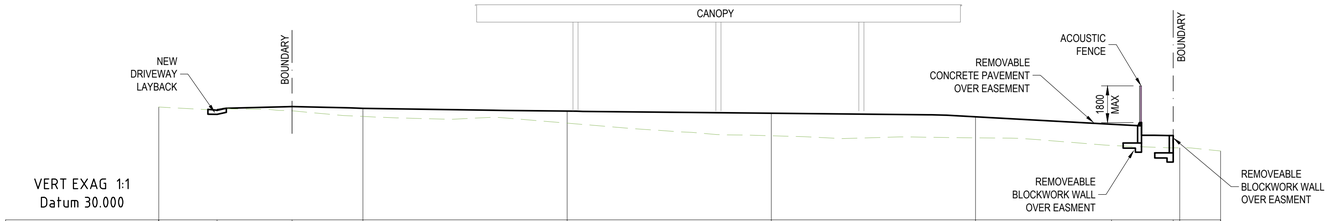
SITE CROSS SECTIONS SHEET 1 OF 2

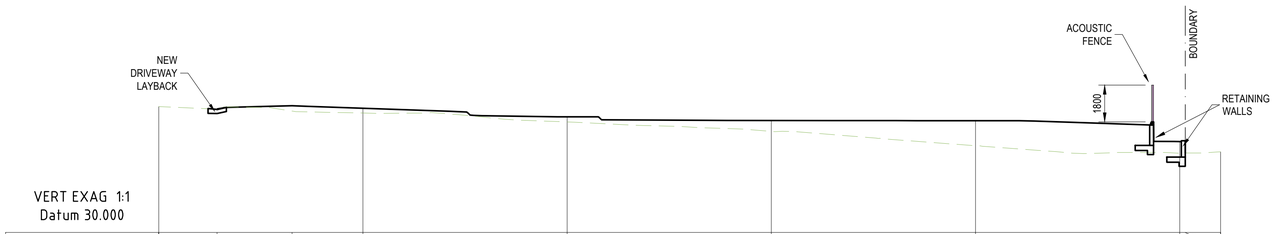
DESIGN	DRAWN	DATE	PROJECT No.
SWH	RCL	SEP 2020	10122
CHECKED	APPROVED	SCALE 1:150	DRG No. C11 - H



VERT EXAG 1:1
Datum 30.000

DESIGN LEVELS		35.360	35.546	35.460	35.326	35.220	35.046	34.681	33.526	
EXISTING LEVELS	35.525	35.360	35.339	35.064	34.736	34.117	34.015	33.643	33.526	33.529	33.371
DEPTH		0.000	0.206	0.396	0.590	1.103	1.031	1.038	0.000	
CHAINAGE	0.000	2.857	6.530	10.000	20.000	30.000	40.000	46.661	49.679	50.000	52.000

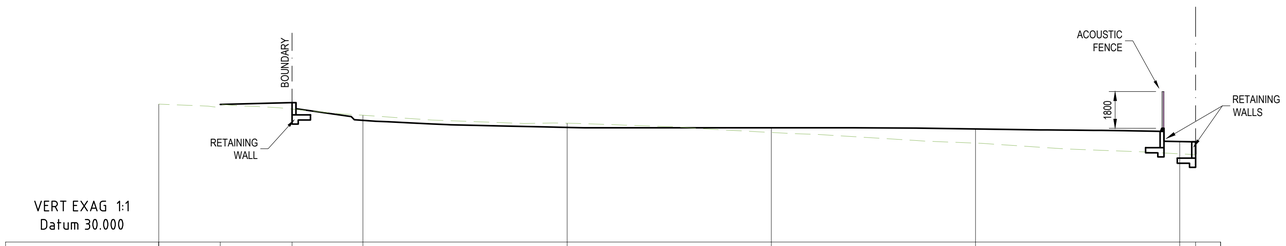
SITE CROSS SECTION 4
1:150 C12



VERT EXAG 1:1
Datum 30.000

DESIGN LEVELS		36.015	36.203	36.080	35.662	35.480	35.471	34.450	33.889
EXISTING LEVELS	36.164	36.015	35.942	35.847	35.411	34.949	34.245	33.876	33.889	33.946
DEPTH		0.000	0.260	0.233	0.251	0.531	1.226	0.575	0.000	
CHAINAGE	0.000	2.857	6.530	10.000	20.000	30.000	40.000	50.000	50.270	52.000

SITE CROSS SECTION 5
1:150 C12



VERT EXAG 1:1
Datum 30.000

DESIGN LEVELS		36.738	36.826	35.958	35.612	35.596	35.537	34.920	34.309	
EXISTING LEVELS	36.753	36.738	36.510	36.209	35.817	35.365	34.844	34.319		
DEPTH		0.000	0.316	-0.250	-0.205	0.231	0.693	0.601		
CHAINAGE	0.000	3.011	6.530	10.000	20.000	30.000	40.000	50.000	50.780	52.000

SITE CROSS SECTION 6
1:150 C12

FOR APPROVAL ONLY
NOT TO BE USED FOR CONSTRUCTION PURPOSES

A1 ORIGINAL SIZE

REVISION	DATE	AMENDMENT DESCRIPTION
H	01.03.22	RE-ISSUED FOR APPROVAL
G	20.12.21	RE-ISSUED FOR APPROVAL
F	01.11.21	RE-ISSUED FOR APPROVAL
E	24.05.21	RE-ISSUED FOR APPROVAL
D	12.04.21	RE-ISSUED FOR APPROVAL
C	26.03.21	ISSUED FOR APPROVAL

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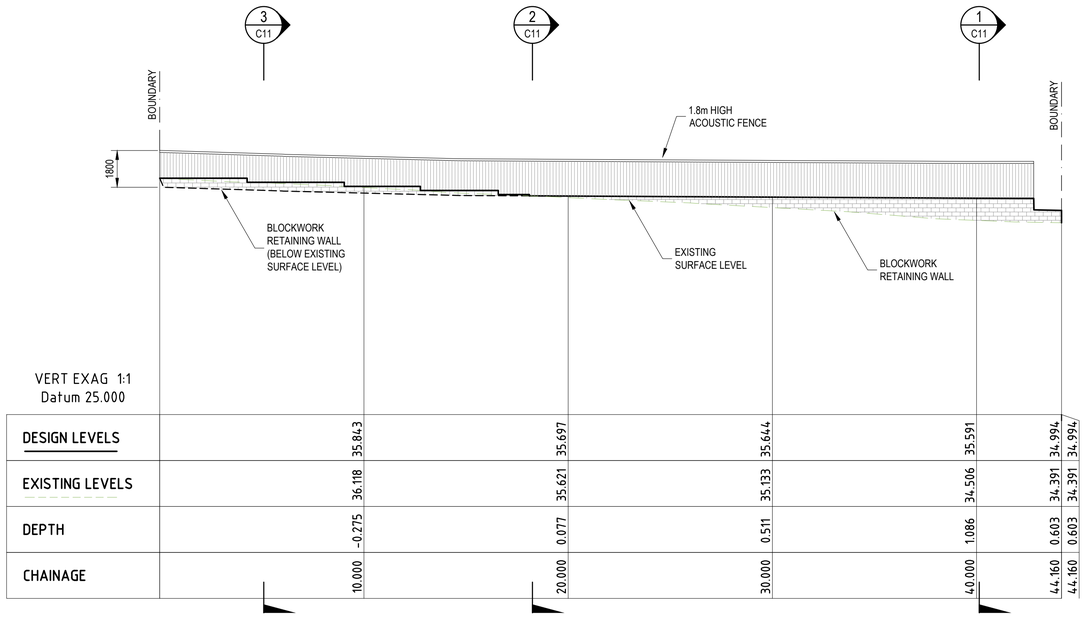
PROPOSED SERVICE STATION
10-14 Wilsons Road, Mount Hutton
For Brown Commercial Building

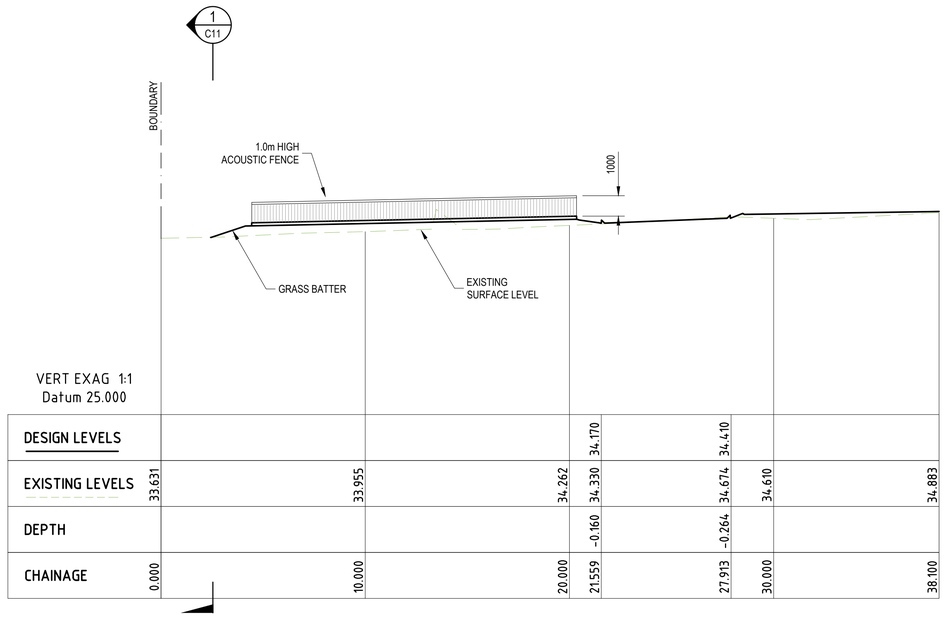
SITE CROSS SECTIONS SHEET 2 OF 2

DESIGN	DRAWN	DATE	PROJECT No.
SWH	RCL	SEP 2020	10122
CHECKED	APPROVED	SCALE	DRG No.
		1:150	C12 - H



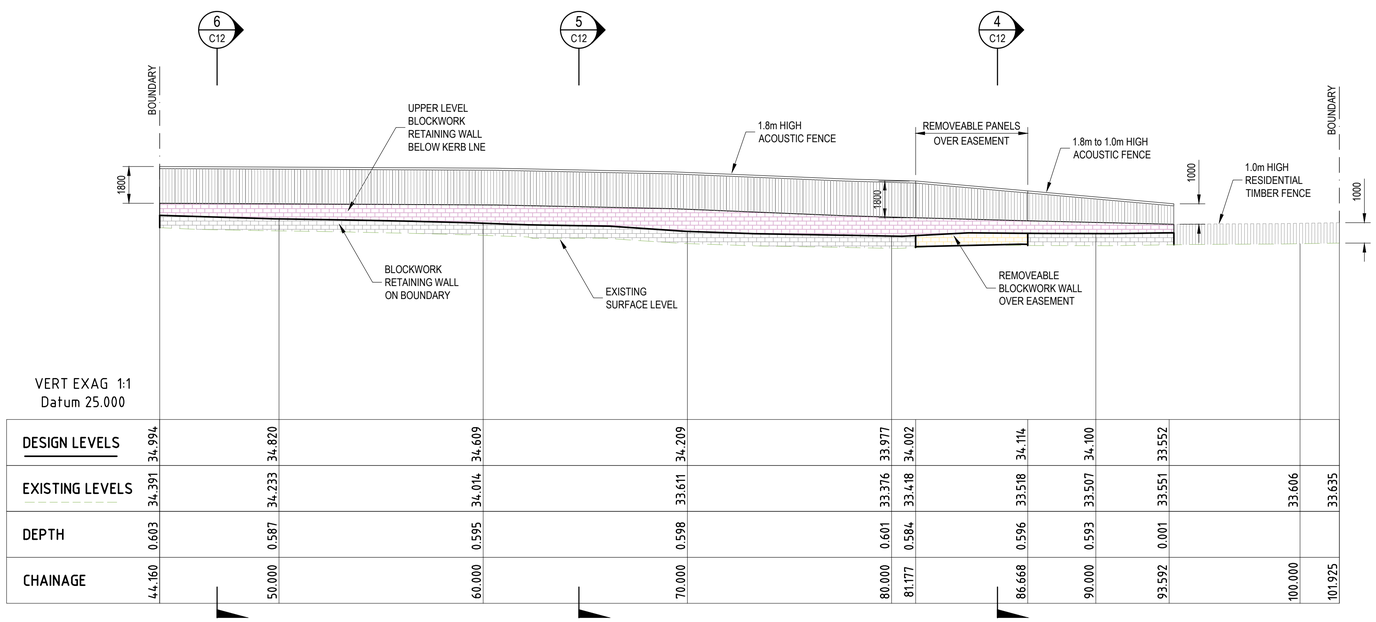
EXTERNAL ELEVATION OF ACOUSTIC FENCE ALONG SOUTH EASTERN BOUNDARY

1:150



EXTERNAL ELEVATION OF ACOUSTIC FENCE ALONG NORTH WESTERN BOUNDARY

1:150



EXTERNAL ELEVATION OF ACOUSTIC FENCE ALONG NORTH EASTERN BOUNDARY

1:150

FOR APPROVAL ONLY

NOT TO BE USED FOR CONSTRUCTION PURPOSES

A1 ORIGINAL SIZE

REVISION	DATE	AMENDMENT DESCRIPTION
F	01.03.22	RE-ISSUED FOR APPROVAL
E	20.12.21	RE-ISSUED FOR APPROVAL
D	06.12.21	RE-ISSUED FOR APPROVAL
C	01.11.21	RE-ISSUED FOR APPROVAL
B	24.05.21	RE-ISSUED FOR APPROVAL
A	12.04.21	ISSUED FOR APPROVAL

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PROPOSED SERVICE STATION

10-14 Wilsons Road, Mount Hutton

For Brown Commercial Building

ACOUSTIC WALL ELEVATIONS

DESIGN	DRAWN	DATE	PROJECT No.
SWH	GOH	APR 2021	10122
CHECKED	APPROVED	SCALE	DRG No.
		1:150	C13 - F

Table 1 – Lake Macquarie DCP 2014 Compliance Table

Control	Requirement	Comment	Compliance
Part 4: Development in Business Zones			
2 Context and Setting			
2.1 Site Analysis	*1. A Site Analysis Plan must be submitted that identifies the existing conditions relating to the subject site and the surrounding land that may influence the design outcome.* *2. The Site Analysis Plan must address:* • *All relevant items as set out in the Site Analysis Guidelines, and* • *All relevant matters outlined below in section 2.2 to 2.22.*	A site analysis has been provided within the architectural plans in Appendix A.	Y
2.2 Scenic Values	*A landscape and visual impact assessment is required for the development of Service Stations unless specified by Council. A landscape and visual impact assessment must be prepared in accordance with section 7.3 of the Scenic Management Guidelines.*	A visual impact assessment was specifically noted during the pre-DA meeting as not necessary for the proposed development.	Y
2.4 Cut and fill	*1. Retaining structures greater than 1m in height must be designed by an engineer, and the certification details lodged with the development application.* *2. Fill must not contribute to unreasonable impacts on amenity or the redirection of water onto adjoining properties.* *3. Batter slopes must not exceed a gradient of 1:4, unless stabilized by dense planting.* *4. Any fill used must be certified Virgin Excavated Natural Materials, certified Excavated Natural Material or uncontaminated engineered fill.*	The proposed retaining wall has been designed by Eclipse engineering consultants. The fill proposed establishes an effective pad for the management of stormwater preventing redirection to any adjoining property. N/A, no batter slopes proposed. All fill is to be VENM, ENM or other certified uncontaminated fill. Documents of fill to be maintained.	Y Y N/A Y
2.6 Contaminated Land	*1. Where development is proposed on land identified as being potentially contaminated, a Preliminary Site Investigation Report must be prepared and submitted with the application for development. Refer to Council's Policy for Managing Contaminated or Potentially Contaminated Land within the City of Lake Macquarie for further information.* *2. Where contaminants are found within the site, a Detailed Site Investigation Report must be prepared and lodged with the development application. Alternatively, for properties within the Pasminco Lead Contamination Survey Grid, a Detailed Site Investigation Report is not required where the parcel is assumed to be contaminated with lead oxide and/or Pasminco Black Slag.* *5. Where a Detailed Site Investigation Report identifies the need for remediation, a Remedial Action Plan must be prepared and submitted prior to issue of a construction certificate.*	A PSI has been provided at Appendix E.	Y

	6. *The site must be validated as suitable for its intended use prior to the issue of an occupation certificate.*		
2.8 Stormwater management	1. *A Water Cycle Management Plan must be submitted for all development except single dwelling houses and dual-occupancy developments.* 2. *A Site Stormwater Drainage Plan must be submitted for all single dwelling houses and dual occupancy development proposals.* 3. *Stormwater management systems must be designed in accordance with the Water Cycle Management Guidelines.* 4. *A maximum of 10% of run-off from built impermeable surfaces may be discharged directly to the drainage system. The remaining 90% of run-off must be captured for reuse or managed through infiltration and retention measures prior to being discharged to the drainage system.* 5. *Stormwater management systems should be visually unobtrusive and integrated within site landscaping, car parks or building structures.* 6. *All developments (except dwelling house or dual occupancy) that involve the re-use of stormwater or the use of recycled water must demonstrate compliance with the Australian Guidelines for Water Recycling and the licensing requirements of the Water industry Competition Act 2006.* 7. *Stormwater management systems must be designed in accordance with the Water Cycle Management Guidelines*	Stormwater management plans have been prepared by Eclipse and provided in Appendix B. The stormwater plans have been designed in accordance with Council requirements and include MUSIC modelling demonstrating compliance.	Y
2.13 Flora and fauna	1. *Where the proposed development is likely to have an impact on native vegetation or fauna habitat, or where five or more native trees are proposed to be removed, a flora and fauna assessment must be submitted with the development application. The flora and fauna assessment must be prepared in accordance with Council's Flora and Fauna Survey Guidelines.* 2. *The flora and fauna assessment must be sufficient to adequately identify and assess all the impacts of the proposed development. This includes cumulative, direct and indirect impacts, as well as the impacts of Asset Protection Zones, provision of services (water and sewer, etc) and stormwater management.*	The proposed development is located in an urbanised area and is unlikely to have any impact on native vegetation and fauna. A flora and fauna study is therefore not required in this instance.	Y

	3. *Where a proposed development site is within a vegetation corridor identified on Native Vegetation and Corridors Map or identified as part of a site-specific flora and fauna assessment, the corridor must be surveyed. Within the survey, the appropriate corridor width must be determined with reference to core habitat areas and potential edge effects and fragmentation. The proposed development should be located and designed to avoid impacts on the identified vegetation corridor. Where this is not possible, the development should be designed to minimize impacts.* 4. *Development should be designed to avoid impacts on native flora and fauna and minimize any unavoidable impacts. Significant flora and fauna species, vegetation communities and habitat should be protected and enhanced through appropriate site planning, design and construction.* 5. *A Site Vegetation Plan must be submitted clearly indicating the location of the proposed development in relation to vegetation communities, significant flora and fauna species and vegetation, and significant habitat and corridors on the site.* 6. *Native vegetation buffers must be provided between development and areas containing threatened flora and fauna species or their habitat, threatened vegetation communities and native vegetation corridors. The width of the buffer should be determined with reference to the function of the habitat, the threat of sea level rise and the type of development proposed. The buffer should be designed to keep the area of significance in natural condition.* 7. *A suitable barrier such as a perimeter road should be provided between development, (including landscaped areas) and native vegetation or significant habitat features, to minimise edge effects* 8. *Where a proposed development is likely to impact on an area of native vegetation, it must be demonstrated that no reasonable alternative is available. Suitable ameliorative measures must also be proposed (eg: weed management, rehabilitation, nest boxes).* 9. *Rehabilitation of degraded areas of the development site should include local native species to establish a self-maintaining ecosystem as close as possible to the natural state.* 10. *Buildings and structures, roads, driveways, fences, dams, infrastructure, drainage and asset protection zones should be located outside of areas with significant flora and fauna, native vegetation corridors and buffers.*		

	11. *An application for removal of native vegetation will only be considered where it is ancillary to, and necessary for conducting an approved use of the land (ie: an application for clearing alone will not be supported).* 12. *Where retention or rehabilitation of native vegetation and/or habitat is required, a vegetation management plan must be prepared in accordance with Council's Vegetation Management Plan Guidelines. This must detail how vegetation will be protected, rehabilitated and managed before, during and after construction.* 13. *Long-term protection and management of areas set aside for ecological reasons is encouraged through secure tenure with appropriate conservation management. This may be achieved through a Planning Agreement.* 14. *Development should be consistent with the effective conservation of land within any adjacent Environmental or Waterway zone and its protection from adverse impacts. It should include, but not be limited to weed invasion, erosion and sedimentation, pollution, chemicals, nutrients, stormwater run-off, feral and domestic animals.*		
2.14 Preservation of Trees and vegetation	1. *For the purposes of Clause 5.9 in LMLEP 2014, development consent is required to ring bark, cut down, top, lop, remove, injure, wilfully destroy or clear:* *i. Any species of vegetation that existed in the State of New South Wales before European Settlement;* *ii. A tree which is listed in Council's Significant Tree Register;* *iii. Tree(s) or native vegetation listed as heritage items or located within a Heritage Conservation Area; or* *iv. A Norfolk Island Pine Tree (Araucaria heterophylla) that is greater than three metres in height, or that has a trunk diameter of 75mm or greater, measured at ground level.* 2. *Except in the E2 Zone, development consent is not required to remove, injure, wilfully destroy or clear native vegetation (excluding native trees and shrubs over three metres in height), only if:* *i. The work is for the purpose of landscaping understorey vegetation and lawn areas where the area to be cleared is less than 600m² (in total), and is on the same allotment as, and within the curtilage of an approved dwelling;* *ii. The soil surface exposed in any period of 90 consecutive days is less than 250m2;* *iii. The slope of the land is less than 15 degrees;*	A total of 3 trees and a number of smaller shrubs are proposed to removed as part of this DA.	Y

	iv. *The area is not subject to a development consent that requires the native vegetation to be retained; and* v. *The work does not involve the disturbance of habitat for threatened species.* 3. *Development consent is not required to ring bark, cut down top, lop, remove, injure, wilfully destroy or clear a tree or native vegetation, if:* i. *The tree is not listed on Council's Significant Tree Register or as Heritage Item or is located within a heritage conservation area, and* ii. *The tree or native vegetation is not required to be retained by a development consent, and* iii. *The tree or native vegetation is within five metres of the outermost projection of a lawfully used building (that is not exempt or complying development) and is on the same allotment as the building, or* iv. *The tree or native vegetation is within one metre of a sealed driveway to a lawfully used building (that is not exempt or complying development) and is on the same allotment as the building, or* v. *The tree or native vegetation is within five metres of the outermost projection of a lawfully used building (that is not exempt or complying development) on an adjoining allotment as the building and owners of both properties reach a written agreement that is submitted to Council prior to removal.* 4. *Development consent is not required for removal of a tree or native vegetation if Council is satisfied beforehand that the tree or native vegetation:* i. *Is dead and is not required as habitat for native fauna or* ii. *Is a risk to life or property.* 5. *Development consent is not required for removal of a tree or native vegetation if:* i. *The tree or native vegetation is in danger of imminent failure and there is risk to life or property; and* ii. *The tree is not listed on Council's Significant Tree Register or as Heritage Item or is located within a heritage conservation area, and* iii. *Evidence to support its removal is forwarded to Council following the removal, in accordance with Council's Tree Preservation and Native Vegetation Management Guidelines.* 6. *Development consent is not required for removal of a NSW native tree if the tree is:* i. *not listed on Council's Significant Tree Register or as Heritage Item or is located within a heritage conservation area, and*		

	ii. not located within other native vegetation and, iii. less than three metres in height and iv. has a trunk diameter at ground level of less than 75mm. 7. An application for removal of tree(s) and native vegetation will be considered only where it is necessary for conducting an approved use of the land. An application for clearing alone will not be supported. 8. A report from a suitably qualified arborist must be submitted to support. i. Any application that may have an impact on a tree listed in Council's Significant Tree Register, or on tree(s) or native vegetation listed as heritage items or located within a heritage conservation area; ii. Any request to review Council's determination of an application for tree pruning or removal; or iii. Any application that Council determines may cause significant impacts on native trees or native vegetation. 9. An arborist report must include a plan to scale that clearly shows: i. The location of the proposed development; ii. The location, diameter, canopy spread, condition and species of each tree on the site; iii. All trees to be removed; iv. All trees to be retained; v. All trees with habitat hollows; vi. Tree protection zones for all trees to be retained; and vii. Any asset protection zones. 10. Habitat trees must be assessed by a suitably qualified flora and fauna specialist. 11. Measures must be implemented to protect native vegetation and trees to be retained during construction works. Such protection measures must be specified in the development application and should be compiled in accordance with Council's Tree Preservation and Native Vegetation Management Guidelines. 12. Where habitat trees are removed, measures (such as nest boxes) must be implemented to mitigate against injury or loss of native fauna and habitat. Such measures must be specified in the development application. 13. Boundary fences must be located, designed and constructed to avoid removing or damaging native trees that have a diameter of 200mm or greater, measured at ground level.		

2.18 Social Impact	*1. A Social Impact Assessment (SIA) must be prepared in accordance with Council's Social Impact Assessment Guidelines and submitted with the development application in the following circumstances:* *i. the development is identified in table 5, or* *ii. the development is valued at $5,000,000 or greater, or* *iii. the development has a floor area greater than 3000m2, or* *iv. where Council identifies that particular circumstances warrant it.* *2. Potential adverse impacts identified by a SIA must be mitigated through redesign, whilst positive impacts should be enhanced by the design or other actions.* *if the development is identified as a Takeaway food and drink premises and/or Service Station.*	The proposed site has been identified as a ***service station*** and ***takeaway food and drink premises.*** A social impact statement has been included within this SEE.	Y
2.21 Utility infrastructure	*1. All existing and additional utility infrastructure must be identified, and an assessment of whether these services need to be upgraded for the proposed development, at the site planning stage.* *2. The location of existing and proposed electricity kiosk sub-stations, fire hydrants, along with clearance areas and access ways must be identified and shown on building and landscape plans.* *3. Council may require the provision of underground electricity services for the full length of the primary frontage of a development.*	Infrastructure such as telecommunication pits, surface stormwater elements, and power infrastructure has been identified within the provided Architectural Plans in Appendix A.	Y
2.22 Site Concept Plan	*1. Where development is proposed on site(s) that exceeds 4000m2 in area or that are identified as a 'Concept Plan Required' site in an Area Plan in Part 10, 11 or 12 of this DCP, a Concept Plan for the site must be prepared and submitted to Council as a Stage 1 Development Application.* *2. A comprehensive urban design analysis of the site and its urban context must be prepared by a suitably qualified and experienced professional.* *3. The urban design analysis must be used to inform and guide preparation of the Concept Plan.* *4. The Concept Plan must include but is not limited to:* *i. a site plan identifying new public views, new or improved public space, new or improved community facilities, items of heritage, landscape or environmental conservation, public transport facilities, new or improved pedestrian links and/or new vehicle access,* *ii. utility infrastructure requirements such as electricity substations, fire hydrants and gas connections, and their location,*	N/A, site is not greater than 4,000m^2 in area nor is it listed as requiring a Concept Plan under other sections of the DCP.	N/A

	iii. a site plan and elevations showing proposed built form, heights, setbacks, building separation, podium levels, extent of podium, landscape areas and interface with the street or public space, *iv. an interactive electronic 3D block model of the proposed building masses and the existing buildings on surrounding sites,* *v. illustrations that indicate proposed building character and materials,* *vi. an indication of the extent of basement car parking, as basement car parking that is built to the boundary has implications for providing deep soil zones in accordance with Section 6.8 of Part 4 – Development in Business Zones.*		
3 Streets and public space			
3.1 Pedestrian lanes	*1. A pedestrian lane must be a minimum five metres in width* *2. A pedestrian lane must be open to the sky above.* *3. A pedestrian lane must allow non-discriminatory access.* *4. The alignment of a pedestrian lane must provide a clear line of sight from end to end.* *5. Development must maximize the length of retail or office floor space with frontage to the lane.* *6. Development must maximize the area of display windows fronting the lane.* *7. Development must include entries, cantilevered awnings, and architectural detail at the footpath level.* *8. Development must include windows or balconies on upper levels to provide surveillance to the lane.* *9. Development must include pedestrian lighting to the lane.* *10. The property owner must maintain the lane as an open and public lane or dedicate the land to Council as a public lane.*	N/A, existing pedestrian walkway is to be maintained with modification only required where the proposed driveway crossover the pedestrian path.	N/A
3.4 Streetscape improvements	*1. Development must result in improvement to the amenity and appearance of adjoining footpaths or public domain.* *2. Works undertaken within the public domain must be consistent with the provisions of the relevant Streetscape Master Plan and Council's Streetscape Technical Guidelines.* *3. Where there is not a relevant Streetscape Master Plan for a town center, Council will specify the extent and type of street trees, footpath paving, pedestrian lighting, street furniture, public art and the like.*	The proposed development includes the provision of landscaping along the site boundaries with an aim to improve visual amenity along Wilsons Road. The provided Landscape Plan has been prepared in accordance with the Mount Hutton Streetscape Master Plan and Council's Streetscape Technical Guidelines.	Y
3.5 Non-discriminatory access	*1. Building entries must be located where there is the smallest level change from the public footpath to the ground floor interior.*	The proposed development has been designed to ensure that non-discriminatory access is achieved. Floor level changes have been kept to a minimum and access maintains the same level of service for site users.	Y

	2. *The design and construction of development must ensure that non-discriminatory access is provided to enable all users of that development to access the same level of service and use.* 3. *Where floor levels are raised to accommodate flooding or projected sea level rise, the design of non-discriminatory access must incorporate an external terrace or internal floor space set at an intermediate level between the footpath and general ground floor level of development.* 4. *Where development is listed in Table 6, a Disability Access Audit must be prepared, in accordance with Council's non-discriminatory access guideline, and submitted to Council. An accredited access consultant must prepare the Disability Access Audit*	A DAA is not deemed to be required under Table 6.	
3.6 Lighting	1. *Development must include external lighting that provides at least 20 lux illumination at the building entrance and to the footpath at the street boundary, or the boundary with a public place.* 2. *External lighting must be located on the building façade and below awning level.* 3. *External lighting must be designed and sited in accordance with the relevant Australian Standard to minimize glare on surrounding dwellings, commercial and retail premises, and public spaces.* 4. *Footpath lighting must incorporate low energy design features such as:* i. *Energy efficient lamps and lenses;* ii. *Daylight sensors and timer controls; and* iii. *Lamps located at an effective height and spacing.*	Appropriate lighting is to be provided throughout the site in accordance with relevant Australian Standards. All building entrances and footpaths are to be illuminated to at least 20 lux. Lighting will be energy efficient and include features to control based on time of day.	Y
4 Active Street frontage			
4.2 Ground floor levels	1. *Where floor levels are raised to accommodate flooding or projected sea level rise the building design must incorporate either:* i. *an external terrace within the front setback area that is set at an intermediate level between the footpath and the main ground floor and is suitable for outdoor trading, or:* ii. *an internal floor space at the street frontage that is set at an intermediate level between the footpath and the main ground floor and is suitable for active use or display.*	N/A, flood levels have not been raised to respond to flood impacts.	N/A
	2. *For all other sites the difference in level between the public footpath and the internal floor level at any point on the street boundary must not exceed 600mm (refer to Figure 4).*	The change in level of the foot path and floor level does not exceed 600mm.	Y
	3. *Where floor levels are raised to accommodate flooding or projected sea level rise an intermediate floor areas must be designed and built to withstand temporary inundation.*	N/A.	N/A

4.3 Ground level Entries	*1. On sites that slope along the street boundary the building entry must be located to minimize the difference between the footpath level and the internal floor level.*	Level differences between internal floor levels and foot paths have been minimised.	Y
	2. Solid framing or solid wall elements must be used to distinguish entries from window display areas.	The building has been designed to clearly distinguish entry points from other elements.	Y
	3. Fully glazed doors within fully glazed frontages are not an acceptable design solution.	Noted, glazed door on glazed frontage avoided.	Y
	4. Signage must be incorporated into the façade design to identify the tenancy and address.	Signage has been integrated into the façade to assist in identifying tenancies.	Y
4.4 Ground floor glazing	*1. The façade below awning level must include clear glazed windows with low sills or retractable glazed doors.* *2. The clear glazing area below awning level must be at least 50% of the façade area*	N/A, no awning proposed.	N/A
4.5 Street awnings	*1. Development in B1, B2, or B3 Zones must provide a continuous or stepped solid box awning for the full extent of the building frontage at the street. Use of tinted glass is not acceptable.* *2. The awning on primary pedestrian streets must be at least 2.7 metres deep, or extend to within 600mm of the kerb face, except where Council requires a variation to accommodate street planting within the footpath area.* *3. Development in the B4 Zone must provide a solid box awning that is at least two metres deep for at least 50% of the building frontage, including the entrance to the building.* *4. The vertical distance from the footpath to the underside of an awning must be between three and 3.6 metres at any point.* *5. Awnings must use materials that are sun, rain and wind proof.* *6. Awnings must drain towards the building, and be supported by approved stormwater disposal methods.*	N/A, the B2 zoned area has no established awning and no current development with no or minimal setback to facilitate street awning. No awning is proposed as part of this DA.	N/A
5 Access and parking			
5.1 Traffic and vehicle access	*1. A Traffic Impact Statement must be prepared and submitted where:* *i. More than 1000m2 Gross Floor Area is proposed; or* *ii. Direct access is required for an arterial or sub-arterial road; or* *iii. The main entry driveway is within 50 metres of a signalized intersection*	A Traffic Impact Assessment has been prepared and provided in Appendix D.	Y
	2. Vehicle access to on-site car parking or service areas must not be located on the primary street frontage if access can be gained from a secondary street or rear lane.	Due to the requirements of the service station development, access may be gained from both Ada Street and Wilsons Road.	N, justified
	3. Vehicle access for light traffic must be restricted to one location.	As above, multiple access points proposed.	N, justified Y

	4. The driveway crossover at the boundary must not exceed the minimum design width required to meet Council traffic requirements.	The driveway crossovers have been designed to accommodate the largest vehicle which will utilise the site, the fuel delivery tanker, in accordance with Council's traffic requirements and Australian Standards.	
	5. Access to on-site car parking and servicing facilities must be oriented perpendicular to the street alignment and must not ramp along a street or lane alignment.	Onsite car parking is perpendicular to the main street frontage.	Y
	6. Where there is no alternative to access at the primary street frontage, the crossover must not occupy more than 25% of that frontage.	Due to service station requirements the front crossovers total 32% of the site frontage.	N, justified
	7. Where the existing laneway width is less than eight metres, development must be set back a minimum of one metre from the lane boundary.	N/A, no laneway present.	N/A
5.2 Design of parking and service areas	*1. Designs of parking areas must ensure that priority is given to the needs or pedestrians, disabled people and cyclists above the needs of the car.*	Pedestrian pathways and crossings have been incorporated into the site design.	Y
	2. Basement parking should be provided on all sites that have sufficient area for access and circulation at a basement level.	N/A, no basement car parking proposed.	N/A
	3. Where unable to provide basement or rear parking, at grade car parking must be screened along the primary street frontage, and a minimum of 50% on the secondary street frontage for developments on corner lots	Appropriate landscaping proposed along the street frontages to minimise visual impact of car parking.	Y
	4. On-site car parking and servicing facilities must be located at a basement level or at the rear of development.	Car parking located away from the primary street frontage. Service area located at rear behind building.	Y
	5. Car parking and driveway areas must be located to minimise disruption to pedestrian movement, safety and amenity on the public footpath.	Car parking has been located away from pedestrian paths where possible and supported with landscaping to improve visual amenity.	Y
	6. Car park design must include direct, safe, and well-marked pedestrian routes from the car park to building entries and footpaths / shared pathways.	The site provides safe pedestrian pathways through the site to the building entries.	Y
	7. Car park design must not result in dead-end aisles.	No dead end aisles proposed.	Y
	8. Where at-grade parking needs to be provided, aisles must be orientated at right angles to the main building frontage.	Parking oriented 90 degrees from building frontage.	Y

	9. Car parks above ground level must be screened from the street with landscape planting or with high quality façade screening that allows natural lighting and ventilation.	N/A, no above ground level parking proposed.	N/A
	10. Servicing facilities for non-residential uses must be located and designed to protect the amenity of residents.	The proposed service yard has been located and designed to minimise impacts on adjoining residents.	Y
	11. For the non-residential component of parking, stack parking may be permitted for long stay spaces only.	N/A, no long stay or stacked parking proposed.	N/A
	12. For the residential component of parking, stack parking may be permitted only where two spaces are designated for a single dwelling.	N/A, no residential component proposed.	N/A
	13. The area of site excavated for the purposes of underground car parking must be limited to the building footprint of the development.	N/A, no underground car parking proposed.	N/A
	14. Permanent sub-surface support and retention structures must be set back a minimum of 900mm from adjacent property boundaries.	Noted.	Y
	15. The design of parking areas must comply with AS2890 Parking Facilities.	The parking areas have been designed in accordance with AS2890.	Y
5.3 Bike parking and facilities	*1. The following bike facilities must be provided for customers and short-term users:* *i. Five bike parking spaces plus an additional 10% of bike parking spaces/ car parking spaces for up to 50 car parking spaces.* *ii. For developments requiring over 50 car parking spaces, a flat 10% ratio of bike parking spaces/car parking spaces applies*	The total bike parking is 7. Bike parking provided for customers in front of the building. Staff bike parking provided in the service yard.	Y
	2. Bike parking for customers and short term users must be: *i. Located close to the development's pedestrian entrance where there is active and passive surveillance;* *ii. Within easy and safe access from outside the site, without impeding the movement of pedestrians or other vehicles; and* *iii. At least 50% covered from the weather where there are more than 10 spaces.*	Customer bike parking located in front of the building in a highly visible location facilitating active and passive surveillance.	Y
	3. The following bike facilities must be provided for employees: *i. One employee bike parking space for each 10 employees, or part thereof;* *ii. One personal locker per two employee bike parking spaces;* *iii. One unisex change room and one shower for developments greater than 1000m2 GFA and less than 2500m2 GFA;* *iv. One female change room with one shower and one male change room with one shower, for developments greater than 2500m2 GFA; and*	A total of 4 secure bike parking spaces provided for staff. Sufficient amenities provided for the scale of the proposed development.	Y

	v. One additional shower (in each change room) for each additional 5000m2 GFA up to a maximum of five showers in each change room. *4. Bike parking for employees must be located in a secure undercover area.* *5. The design of all bike parking must:* *i. Include clear signposting and good lighting;* *ii. Use racks that support the bicycle in an upright position, with the bicycle frame and at least one wheel locked to the rack;* *iii. Ensure racks that fit all types and sizes of bicycles;* *iv. Incorporate construction and materials that are durable and resistant to vandals and thieves; and* *v. Be designed in accordance with relevant Australian Standards.*	Staff bike parking located in service yard which is secure and undercover. Appropriate racks are to be installed compliant with Australian Standards. Lighting is to be provided illuminating the bike racks.	Y Y
5.4 Motor bike parking	*Development must provide one motorbike parking space for each 20 car parking spaces.*	Two motorcycle parks proposed, exceeding the requirement.	Y
5.5 Car parking rates	*1. Where the proposed number of car parking spaces is less than those specified in Table 7, detailed justification must be provided to support a variation, including:* *i. Analysis of the active and public transport options available within the vicinity of the proposal; and* *ii. Survey data from comparable facilities with similar levels of active and public transport provision; or* *iii. Implementation of a Green Travel Plan.* *2. Where the proposed number of car parking spaces is more than that specified, detailed justification must be provided to support a variation, including:* *i. Demonstration that exceeding the designated car parking rates does not detract from the urban design outcomes of the proposal; and* *ii. A detailed cost benefit analysis demonstrating the benefits to the community is superior than adherence to the rates including consideration of the environmental and economic benefits of using the land for a higher order use; and* *iii. Parking survey data from existing operations where expansion is proposed.* *3. The number of car parking spaces provided may be consistent with the specifications of Table 7 without further justification.* *4. Where vehicle parking requirements are not specified in Table 7, justification must be provided that supports the proposed vehicle parking provisions, including:*	Service station including a convenience store - 1 space per 60m^2 GFA Food & drink premises - 1 space per 25m^2 GFA *212.5 / 60 = 3.54* *150 / 25 = 6* Total of **10** car parks required. **17** car parks proposed. An excess of 7 car parks is noted. The number of car parks proposed is inline with the nature of the proposed development incorporating two land uses and will allow for cross use with other commercial land uses along Wilsons Road. The car parking proposed is avoided along the Wilsons Road frontage and sufficient landscaping provided along the Ada Street frontage to improve visual amenity outcomes.	Y N, Justified

	i. *Consideration of the desired urban design (streetscape and built form) outcomes of the area; and* ii. *Analysis of the active and public transport options available within the vicinity of the proposal; and* iii. *Survey data from comparable facilities with similar levels of active and public transport provision* 5. *Where the floor area of an existing development is being increased, the required car parking is to be calculated for the additional floor area only.* 6. *Where a Green Travel Plan proposes to reduce the car parking rate, it must demonstrate a practical and effective combination of:* i. *Employee incentives to encourage alternatives to car travel (such as public transport or taxi vouchers);* ii. *End of trip facilities in excess of Council's requirements, including additional showers and lockers to encourage walking and cycling;* iii. *Designated car parking spaces for car sharing; and* iv. *Preparation of a Transport Access Guide (TAG) with concise instructions on how to reach a site or venue by public transport, walking and cycling (using such sources as maps, websites and business publications).* 7. *Where a Green Travel Plan is proposed, it must be accompanied by a written agreement with the owner or occupier to implement the plan.*		
6 Development Design			
6.2 Front Setback - main street shops in B1, B2 & B3 Zones	1. *Development on land zoned B1 Neighbourhood Centre, B2 Local Centre or B3 Commercial Core must be built to the primary street boundary for the full width of the building.* 2. *On corner lots, development on land zoned B1 Neighbourhood Centre, B2 Local Centre or B3 Commercial Core must be built to the secondary street boundary for the full depth of the building.* 3. *On upper levels, development must be set back at least three metres from the primary street boundary, and for corner lots, development must be set back three metres from the secondary street boundary, as shown in 8.*	N/A, Part 10.6: Mount Hutton Town Centre prescribes a 5m setback to the road boundary.	Y
6.4 Façade Articulation	1. *Articulation of the building façade must define the scale and extent of each shop or office at the street frontage.* 2. *For development built to the street boundary, street level entries must not be recessed more than 1m from the surrounding façade wall.*	The building has been articulated to define each proposed use. N/A, development not built to street boundary.	Y N/A

	3. For development built to the street boundary, the change in wall alignment at street level for all façade elements, except entries, must not exceed 600mm.	N/A, development not built to street boundary.	N/A
	4. Upper level balconies may encroach up to 600mm into the front setback area, for a maximum of 50% of the building façade width.	N/A, no upper level proposed.	N/A
	5. On upper levels, balconies, entry awnings, sun shading devices, cornices and the like may project up to 600mm into the front setback area.	N/A, no upper level proposed.	N/A
	6. Blank façade walls must not exceed five metres in length.	Noted, blank façade walls greater than 5m avoided	Y
6.5 Building exteriors	*1. Building design must include:* *i. Stepped awnings and parapets on sloping street elevations;* *ii. Vertical articulation of the façade to define retail and office units;* *iii. Horizontal changes in the façade treatment on upper levels; and* *iv. Recessed balconies on the first level above the street.*	The proposed building has been designed to include vertical articulation to define the two separate land uses occupying the building.	Y
	2. External walls must be constructed of high quality, durable materials and finishes, with self-cleaning attributes. Curtain wall glazing or other highly reflective finishes are not acceptable.	All external wall finishes are to be of high quality and durable materials and have self-cleaning attributes. Highly reflective finishes avoided.	Y
	3. Finishes with high maintenance costs, or those susceptible to degradation or corrosion from coastal environments must be avoided.	High maintenance and degrading finishes are avoided.	Y
	4. External façades must include articulation and/or detail elements to define internal spaces and to provide visual interest.	Articulation proposed in the building design to define spaces and contribute visual interest.	Y
	5. The building wall finishes must include at least two surface materials and one other detail material.	Multiple finishes proposed for the building.	Y
	6. A material sample board and schedule that includes the environmental performance and life expectancy for each material must be submitted for all developments two storeys or more.	N/A, 1 storey proposed.	N/A
	7. Wall, roof or glazing finishes must not include highly reflective surfaces.	Highly reflective surfaces avoided.	Y
6.7 Side and rear setbacks	*1. Where possible, development must be built to the side boundary for the ground and first level, for a depth of no more than 12 metres measured from the street boundary.*	Control 6.11 requires minimum 3m setback to residential properties. 3m setback exceeded.	N, justified
	2. Beyond the 12 meters referred to in control 1, development must be set back as follows: *i. a minimum of 1.5metres from a side boundary for the ground and first levels, and* *ii. 3 metres for all upper levels, beyond the first level.*	Side boundary setback exceeds 1.5m at the ground level.	Y

	3. Buildings must be set back a minimum of 1.5 metres from rear boundaries for the ground level and three metres for all upper levels.	Rear setback exceeds 1.5m.	Y
	4. Where setback distances are not sufficient for visual privacy, development must provide additional measures, such as privacy screens, to achieve visual privacy for occupants and neighbours.	N/A, sufficient setbacks provided.	N/A
6.8 Minimum Landscaped area	*1. All development must provide a minimum landscaped area of 20% of the total site area.*	A total of 330m^2 or 13% landscaped area is proposed to facilitate the proposed hardstand area, drive-through element, and building.	N, justified
	2. In the B4 Mixed Use Zone at least 50% of landscaped area must be deep soil planting.	N/A, site not located in B4 zone.	Y
	3. The deep soil planting area must have a minimum width of three metres to allow for the planting of trees and shrubs that will grow to be mature plants.	Landscape plan provides 3m space between deep soil planting.	Y
	4. Where site levels allow, podium planting is to be integrated with surrounding deep soil landscaping and hard paved areas, so the podium reads as an extension of the surrounding landscape.	Noted, all landscaped areas are to be integrated into the overall landscape design.	Y
	5. Structures to support or contain planting must be designed by a suitably qualified engineer	No landscaping structures proposed.	Y
6.9 Building depth	*Retail, business, or office floor space should not exceed 30 metres in depth, unless all floor space is within 15 metres of an adequate natural light source.*	The propose depth does not exceed 30m.	Y
6.10 Maximum occupied area	*The floor space above ground level and within three metres of the rear setback line must not occupy more than 50% of the maximum possible area.*	N/A, 1 storey proposed.	N/A
6.11 Setbacks from residential zoned land	*Minimum setback from residential zoned land at ground level= 3m*	Setback from adjoining residential properties at north eastern exceeds 3m.	Y
6.12 Building height	*Maximum building height for a single storey= 6m*	Single storey is proposed to be 4.65m high, compliant with the control.	Y
6.13 Building height at the street	*1. In the B2 and B3 zone, development must provide at least two storeys in height along the primary street boundary for at least 50% of the frontage(s).* *2. On corner lots, the maximum height of development must occur at the corner element.*	Single storey proposed. Building mass not proposed on corner element.	N, justified
6.14 Floor to ceiling height	*1. Minimum floor to ceiling height at ground level for commercial uses is 3.3m*	Floor to ceiling height is to comply with the 3.3m requirement.	Y
6.15 Roofs	*1. On sloping sites, roof planes must step with the topography.*	N/A.	N/A
	2. The roof form must be flat or low pitched.	Roof to be flat.	Y
	3. The roof form should not exceed 1.5 metres in height.	Roof is proposed to be flat.	Y
		All mechanical units are located in the service yard screened from the public.	Y

	4. *Air conditioning units, lift motor rooms, and other plant must be fully integrated within the building or roof volume, or within an architectural roof feature and not openly viewed from public place or dwelling.* 5. *Other roof elements such as photovoltaic panels, communication devices, antennae, satellite dishes, chimneys and flues must not interfere with the outlook of viewers in neighbouring properties, or in the public domain.*	Noted. Any component will minimise visual impact on adjoining properties.	Y
6.16 Views	1. *Developments must provide for the reasonable sharing of views in accordance with the Planning Principle established by the Land and Environment Court in Tenacity Consulting v Warringah Council [2004] NSWLEC 140 and Davies v Penrith City Council [2013] NSWLEC 1141.*	The proposed development will have minimal impact on views from adjoining properties due to the low scale of development.	Y
	2. *Developments must provide for reasonable public domain views in accordance with the Planning Principle established by the Land and Environment Court in Rose Bay Marina Pty Limited v Woollahra Municipal Council [2013] NSWLEC 1046.*	Public domain views are preserved by the proposed development.	Y
	3. *The desire for views must not outweigh the design for solar access*	Solar access preserved due to the scale of development.	Y
6.18 Planting on structures	1. *The planting of shrubs and trees is encouraged on the top of setback areas, rooftops, and over car parking structures.* 2. *Planter boxes must be located at the perimeter of rooftop gardens to minimize overlooking of neighbouring dwellings.* 3. *Planting containers must allow sufficient depth and volume, growing medium and irrigation to support the mature size of plants.* 4. *All planting areas on structures must be designed by a suitably qualified engineer.*	N/A, no planting structures proposed.	N/A
6.19 Solar access and orientation	1. *Developments must provide for the reasonable access to sunlight in accordance with the Planning Principle established by the Land and Environment Court in The Benevolent Society v Waverley Council [2010] NSWLEC 1082 and Davies v Penrith City Council [2013] NSWLEC 1141.*	An appropriate level of solar access is achieved through the proposed building. With the proposed setbacks, the level of solar access to adjoining properties is maintained.	Y
6.20 Energy efficiency generation	1. *Buildings must be oriented to provide efficient use of solar energy and natural ventilation wherever possible.*	The proposed development has been oriented to enhance solar access.	Y
	2. *Designs must consider future potential for renewable energy generation and low carbon technology.*	Sustainable materials are to be utilised for the proposed development.	Y
	3. *Commercial developments in excess of 2,000m² gross floor area should achieve the equivalent of a minimum 4 Star Rating under the Green Building Council of Australia's Green Star Rating tool.*	N/A, not over 2,000m² GFA.	N/A

6.21 Visual privacy	*1. Developments must provide for a reasonable level of privacy in accordance with the Planning Principle established by the Land and Environment Court in Meriton v Sydney City Council [2004] NSWLEC 313, Super Studio v Waverley Council [2004] NSWLEC 91 and Davies v Penrith City Council [2013] NSWLEC 1141.*	Privacy to adjoining residents is to be preserved due to the site planning, fencing and adequate setbacks.	Y
6.22 Acoustic privacy	*1. Developments near existing noise generating activities, such as plant, services, roads and industry, must be designed to mitigate the effect of noise on the occupants of dwellings.*	The proposed development is designed to minimise noise impacts from other noise generating sources.	Y
	2. Where viable, noise sensitive areas – such as bedrooms and private open space in mixed use developments – must be located away from noise sources.	N/A, no noise sensitive areas proposed.	N/A
	3. Building structures must be designed to minimize the transmission of sound, particularly to sleeping and living areas in adjoining developments.	Noise walls have been proposed to minimise noise transmission from the site.	Y
	4. Development must demonstrate that dwellings achieve an internal comfort level in accordance with the relevant Australian Standard.	Noise impacts on adjoining dwellings is within acceptable criteria.	Y
	5. Private open space including balconies must be designed to achieve comfort levels in accordance with relevant Australian Standards for noise accentuation.	Noise impacts on adjoining dwellings is within acceptable criteria.	Y
	6. Developments must provide for a reasonable level of acoustic privacy in accordance with the Planning Principle established by the Land and Environment Court in Davies v Penrith City Council [2013] NSWLEC 1141.	Noise impacts on adjoining dwellings is within acceptable criteria. See NIA at Appendix G.	Y
6.23 Front fences	*1. Front fences and front fence returns must not exceed 1.5 metres above the footpath level.* *2. Front fences must not be solid masonry, sheet metal, solid timber that would block sight lines between the public footpath and development site.* *3. Front fences must not be positioned forward of the building line.*	N/A, no front fence proposed.	N/A
6.24 Side and rear fences	*1. Side and rear boundary fences must not exceed 1.8 metres above the existing ground level.*	Side and rear fencing is to not exceed 1.8m.	Y
	2. For sloping sites, side and rear boundary fences may be regularly stepped provided the average height does not exceed 1.8 metres.	N/A, site to be level.	N/A
	3. Where fences are proposed in conjunction with a retaining wall, the combined height of the fence and retaining wall must not exceed 1.8 metres above the existing ground level.	Noted. Fencing is not proposed in conjunction with retaining walls.	Y
	4. The design and materials of fencing must complement development and landscaping on site. The use of masonry and lapped and capped timber fencing is encouraged rather than excessive use of colour bond material.	The proposed fence will consist of a timber lapped and capped boundary fence presenting to the adjoining properties.	Y
6.25 Safety and security	*1. A Crime Risk Assessment must be prepared and submitted to Council, where development:*	A Crime Risk Assessment has been provided at Appendix I.	Y

	• *is a service center or takeaway food and drink premises* • *is valued at $5,000,000 or greater, or* • *has a floor area greater than 5000m².* • *will be open to the public between the hours of 9pm and 6am.*		
7 Landscape			
7.1 Landscape Design	1. *Appropriate landscape documentation must be prepared and submitted in accordance with Table 12 – Landscape Development Type and Requirements.* 2. *Appropriately qualified professionals must prepare landscape documentation. For Category 3 development, a qualified landscape architect should prepare landscape documentation. For Category 2 development, a landscape architect, landscape designer, or horticulturist should prepare landscape documentation.* 3. *The landscape consultant's declaration must be signed and submitted with the relevant landscape documentation.*	A Landscape Plan prepared by JK's Garden Creations has been provided at Appendix H. Qualifications and declaration has been provided on the provided plans.	Y
7.2 Street trees and streetscape improvements	1. *Where the footpath is 4.2 metres or wider, development must include supply, installation and establishment of at least one advanced clear trunk tree for every 10 metres of street frontage.* 2. *The root volume for each tree must be a minimum of 8m3 and between 600 and 750mm deep.* 3. *All trees installed must be advanced stock, and at least 100L container size.* 4. *The tree supplier or landscape contractor must provide evidence that all trees generally comply with NATSPEC Guide to Specifying Trees - Assessment of Tree Quality.* 5. *All trees installed must be established and maintained for a minimum period of 24 months. Any failed trees must be replaced immediately.* 6. *Where the footpath is less than 4 metres wide, Council may specify tree planting in the parking lane or alternative public space.* 7. *Council may specify details for tree supply and installation, paving, lighting, street furniture and similar landscape improvements.*	N/A, footpath not 4.2m or wider. N/A N/A N/A N/A Noted, consultation with Council during DA process to establish requirement. Noted.	N/A N/A N/A N/A N/A Y Y
7.3 Landscape and tree planting in front setback areas	1. *Development must include installation and maintenance of at least one advanced clear-trunked broad-canopy tree for every 20m² of front setback area* 2. *The root volume for each tree in the front setback area must be a minimum of 8m3 and between 600 and 750mm deep.* 3. *Each area allocated to tree planting must have a corresponding clear air space that is at least eight metres high and six metres in width.* 4. *All trees installed must be advanced stock, and at least 45L container size.*	Based on an area of 171m² for the two frontages, 8.55 trees would be required. A total of 6 trees are proposed along the two frontages supported by a total of 4 street trees, for a total of 10.	Y

	5. Understory planting must comprise low growing species less than 900mm in height.		
7.4 Landscape and trees in car parks	*1. Development must include supply, installation and maintenance of at least one advanced clear trunked broad-canopy tree for every six at-grade car parking spaces.*	With a front landscape area of 171m^2 a total of 9 (8.55) described trees are required. 6 trees are proposed within the front landscape area however a further 4 street trees are proposed to further bolster the greening along Ada Street and Wilsons Road.	Y
	2. Each landscape planting area must include at least one medium canopy tree, with suitable ground covers or low shrubs below.	The provision of mid level greening is incompatible with the proposed development which requires clear sightlines into and out of the site for safe road network operation along with compliance with CPTED principles. As such, low ground covers and high canopy trees are proposed providing for improved amenity while facilitating sightlines and surveillance.	N, justified
	3. Each landscape planting area must have a minimum width of two metres.	Noted, 2m widths provided in landscape areas where possible.	Y
	4. The root volume for each tree must be a minimum of 8m3 and between 600 and 750mm deep.	Noted, sufficient root volume to be provided.	Y
	5. The root volume must be either existing deep soil or an equivalent volume of gap graded (load bearing) soil with a porous vehicle pavement over, that is installed to manufacturers specifications.	Noted, root volume made up of appropriate soil and will remain porous.	Y
	6. Each area allocated to tree planting must have a corresponding clear air space that is at least eight metres high and six metres in width.	Noted, all trees proposed have been located to ensure sufficient clear air space above.	Y
	7. All trees installed must be advanced stock and at least 75L container size.	Noted, advanced stock to be utilised on site.	Y
	8. All trees installed must be established and maintained for the life of the development. Any failed trees must be replaced immediately.	Noted, all trees to be maintained and replaced immediately if failed.	Y
8 Operational requirements			
8.1 Demolition and construction waste management	*Applications must provide a completed Demolition Waste Management Plan (WMP) (where there are demolition works) and a Construction WMP (for all construction works), in accordance with Chapter 2 (for Demolition) and Chapter 3 (for Construction) of the Lake Macquarie City Council Waste Management Guidelines unless the development is:…*	A Waste Management Plan addressing construction and demolition waste generation has been provided at Appendix J.	Y
	2. The Demolition WMP must describe how the proposal avoids creating waste and how it maximises the reuse and recycling of demolition and construction wastes.	Details of projected reuse, recycling, or disposal have been noted within the provided WMP.	Y

	3. The following must be shown on scaled plans to be submitted with the development application for demolition and construction stages; *i. waste storage area(s) with bins and equipment shown to scale;* *ii. waste collection area(s) with bins shown to scale (if different from storage areas);* *iii. waste carting route(s) from buildings to waste storage area(s)´* *iv. bin carting route(s) from waste storage to collection point(s) (if different from storage areas); and* *v. for developments proposing onsite collection, the waste collection vehicle route, swept paths and clearances*	The provided plans show the waste area within the service yard with two bins provided. Waste collection vehicles are safely able to enter the site, manoeuvre to the service yard and exit the site in a forward manner.	Y
Operational waste management	*An Operational Waste Management Plan (WMP) must be prepared in accordance with the Lake Macquarie Waste Management Guidelines and submitted with the development application for retail facilities.*	Projected operation waste generation has been provided within the WMP in Appendix J.	Y
Liquid trade waste and chemical storage	*1. Where development is proposed that will generate liquid trade wastes, evidence of a liquid trade waste agreement with Hunter Water must be provided. On-site treatment and/or disposal of liquid trade waste will not be permitted.* *2. Developments that generate liquid trade waste must ensure that this waste is adequately contained and bunded to prevent pollution entering the environment.* *3. Where chemicals are stored within, or as part of development, those chemicals must be adequately contained and bunded to prevent chemicals entering the environment unintentionally in the event of a spill, flooding, or any other event that may lead to the escape of chemicals.* *4. All containment and bunded areas must drain to the reticulated sewerage system under agreement with Hunter Water. No on-site treatment or disposal of liquid trade waste or spilt chemicals will be permitted.*	Noted. If required a trade waste agreement will be obtained from Hunter Water and can be provided to Council.	Y
Erosion and sediment control	*1. For proposals where the area of soil disturbance is less than 250m2 , appropriate erosion and sediment control measures must be installed and maintained.* *2. For proposals where the area of soil disturbance is more than 250m2 but less than 2500m2 , an Erosion and Sediment Control Plan (ESCP) must be prepared and lodged, in accordance with Council's Erosion and Sediment Control Guideline.* *3. For proposals where the area of soil disturbance is more than 2500m2, a Soil and Water Management Plan, identifying erosion prevention and sediment control measures, must be prepared and lodged, in accordance with Council's Erosion and Sediment Control Guideline.*	An erosion and sediment control plan has been included within Appendix B. The plan has been prepared in accordance with Council's Erosion and Sediment Control Guidelines.	Y

	4. The maximum area of soil exposure at any one time must not exceed 2.5 hectares.		
Air quality	*An air quality report must be prepared by an air quality/odour expert where a proposed development has the potential to adversely affect air quality or to be affected by poor air quality.*	Air quality impacts are not projected to occur noting the NSW EPA requirements for underground fuel storage.	Y
Noise and vibration	*Where proposed development has the potential to produce an adverse noise or vibration impact on occupants of the site or of nearby properties, an acoustic and vibration study must be prepared by a qualified consultant, to Council's satisfaction.*	An Acoustic Report has been prepared by Muller Acoustic Consulting and provided at Appendix G.	Y
Part 9.15: Service Stations			
Controls	*1. Vegetation landscaping must be included in the design of service stations to soften the appearance of the development, and to assist in contributing to the amenity of the area.*	A Landscape Plan has been provided with a vegetation scheme which softens the appearance of the development from the surrounding area.	Y
	2. A continuous landscape strip must be provided along the frontage of the site and any building or structure must be located at least 7 metres behind the landscape strip.	A 5.88m space between the front landscape strip and the proposed food and drink premises component. The service station convenience store is located well outside the control distance with the food and drink premises presenting a more attractive building component supported by landscaping to the Wilsons Road streetscape.	N, justified
	3. A continuous building form must be provided along at least 75% of the rear boundary, where the development adjoins housing.	Considering the corner location of the site, a continuous building form of 75% has been presented to the south eastern boundary.	Y
	4. A 3m wide densely vegetated buffer must be provided between the building and the lot boundary where a building wall with no openings is the closest element to adjoining housing.	N/A, the proposed building has been located to afford an ample setback to adjoining residents with the proposed drive through element representing the closest element.	N/A
	5. A 6m wide densely vegetated buffer must be provided between the building and the lot boundary where a building wall with openings is the closest element to adjoining housing.		N/A

	6. Vegetated buffers along boundaries must consist of species that will form a visual screen 4 meters high within three years.	N/A, the proposed building has been located to afford an ample setback to adjoining residents with the proposed drive through element representing the closest element. Due to the provision of a drive through lane and other manoeuvring areas the side/rear boundaries are limited. This limited planting base limits the vegetation able to be established along these boundaries. Attractive boundary fencing is proposed in accordance with Council's requirements with the setback to the boundaries sufficient to reduce impacts.	N, justified
	7. Vegetated buffers along large featureless walls must screen a minimum of 30% of the building elevation at maturity.	N/A, no vegetation buffer proposed.	N/A
	8. The development must be designed and constructed with high quality finishes.	High quality and low maintenance finishes are proposed to be utilised.	Y
	9. Building openings and operational activity areas must be located away from adjoining residences.	Openings and operational areas located away from residential receivers with mitigations in place to further reduce impacts.	Y
	10. Where site constraints mean that this is not feasible, measures are to be implemented to mitigate adverse impacts of noise, vibration, glare, light and odour on adjoining residences.	Noise walls and appropriate fencing are proposed to minimise noise and glare to adjoining properties. All lights are to be installed to Australian Standards to minimise light spill. The underground fuel tanks are to be NSW EPA standards which minimise vapours effectively managing odour.	Y
	11. Parking and outdoor storage areas, including waste storage, must be screened from adjoining housing development.	The service yard is proposed to be screened through fencing. Parking areas to be screened by fencing and landscaping.	Y
	12. Casual surveillance must be provided from the public domain to any retail area or shop associated with the service station.	The building has been designed to facilitate casual surveillance throughout the site to minimise crime risk.	Y
	13. Refueling areas and the entrance to any retail area, waste storage area, or shop must be visible from the street.	The refuelling areas and building are visible from the street.	Y
	14. Stand-alone Service Station development must not exceed 8.5 metres in height.	The proposed building and architectural features are below 8.5m.	Y

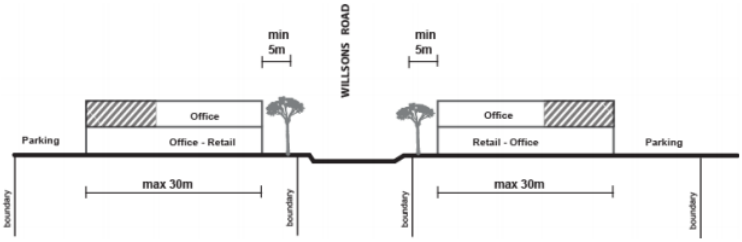
	15. A Crime Risk Assessment must be submitted to Council.	A Crime risk Assessment has been provided at Appendix I.	Y
	16. Non-discriminatory access must be provided to the development, including to waste storage facilities for staff and bins for customers.	The development is to be compliant with all disability standards, BCA, and applicable Australian Standards.	Y
Waste	*Waste management for Service Stations must comply with "Guidance to Meet Operational Controls - All Zones" in the Lake Macquarie Waste Management Guidelines, with the following modifications:* *1. The Operational Waste Management Plan must identify a list of types of problem wastes and how these will be managed and recycled where possible, such as light globes, batteries, motor oil, tyres, car parts, chemicals and electrical wastes from vehicle and building facility maintenance, and sanitary hygiene, nappy and medical sharps from restroom facilities.* *2. Waste containers along with advisory signage must be provided at the bowsers, near the building exits and within any sitting area that allows and enables customers to separate and dispose of recyclables, food, residual garbage and problem wastes*	Noted, additional requirements have been included within the provided WMP in Appendix J. Waste containers are to be provided throughout the site including at fuel bowsers and entry points. Both general and recycle containers to be provided.	Y Y
Waste storage areas	*A secure waste storage area(s) must be provided to store separated wastes in suitable bins, compactors, containers, including bunded containers or area(s) if waste oil or chemicals are to be stored. The waste storage area(s) must:* *1. be lit, secured and meet security requirements as per Council's Crime Prevention Through Environmental Design Guideline;* *2. have sufficient space to accommodate the volumes of waste and bin sizes identified to manage the waste;* *3. be visually screened and integrated with the built form and landscaping in terms of appearance, materials, form, scale, location and orientation; and* *4. be designed and located to mitigate noise and odour impacts on neighbours*	The service yard has been designed to provide sufficient room to house two bins capable of accommodating the two proposed land uses. The service yard is integrated with the building and provided with a fence and roof to minimise noise and odour to neighbouring property.	Y
Waste collection and vehicle access	*1. Waste collection vehicle reversing should be minimized. Risk of collisions between waste collection vehicle and other vehicles, and between vehicles and pedestrians, must be minimized by design and vehicle routing.*	Sufficient manoeuvring space has been afforded to minimise reversing movements for service and waste collection vehicles.	Y
Part 9.17: Signage			

17.1 Design	*1. Signs must be compatible with the design, scale and architectural character of the building or the site upon which it is to be placed.*	The proposed signage spaces have been located to be integrated with the building and architectural features.	Y
	2. Design must ensure that signs are not confused with, or reduce the effectiveness of traffic control devices.	The proposed signs are designed to minimise impact on the roadway operation and safety.	Y
	3. Supporting structures of signs must be of a high aesthetic appearance, and must not interfere with the visual amenity of the area.	Supporting structures are to be concealed from view.	Y
	4. Materials used for signs must be durable, fade-proof and of a high aesthetic quality.	All signs are to be high quality and durable to ensure ongoing aesthetic quality.	Y
17.2 Positioning	*1. Signs must not dominate or obscure other signs, or result in visual clutter.*	The proposed signs will not dominate or obscure any other signs. the number of signs is modest considering the number and nature of the land uses proposed.	Y
	2. Signs must not endanger the public, or diminish the amenity of nearby properties.	The proposed signs are designed to minimise impact on the surrounding area and is compatible with the desired commercial character along Wilsons Road.	Y
	3. Sign must be shared where appropriate (ie: multi-tenanted premises)	The proposed pylon sign to include signage for both land uses minimising number of signs proposed.	Y
	4. Signs must be located and erected on the site to which they relate, and must not be: *i. Mounted on vehicles, trailers or shipping containers that stand continuously stationary for the purpose of advertising, on either public or private land;* *ii. Mounted on trees; or* *iii. Supported by people or animals.*	All proposed signs are located wholly within the site and do not utilise any of the below features.	Y
	5. Signs must be located so as not to cause or create a traffic hazard, including obscuring views of vehicles, pedestrians or potentially hazardous road features.	The proposed signs are designed and located to minimise any potential traffic hazards.	Y
	6. Signs must not cover mechanical ventilation inlets or outlet vents.	Noted, no proposed sign covers any ventilation point.	Y
	7. Signs must not obstruct access to the area where bins are stored.	Signage not located on service yard area.	Y
	8. Signs must not obstruct the collection point nor overhead lift arc where bins are collected.	Signage not located on service yard area.	Y
	9. Signs must not obstruct the route that bins are moved between bin storage and collection point	Signage not located on service yard area.	Y

17.3 Specific Sign Dimensions	1. *Fascia signs must be located on an awning, and confined to the height of the awning and its length parallel to the street. They must not project more than 300mm out from the fascia and/or walls, and must integrate with the design of the building.*	Proposed fascia sign above convenience store entrance is confined within the bounds of the fascia feature. Does not project greater than 300mm and is integrated into the fascia design.	Y
	2. *Above awning signs must not exceed 0.9 metres in height, and the distance from the awning to the base of the sign must not exceed 0.2 metres. They must not extend beyond the edge of the awning, and are not to exceed 5m2.*	N/A, no above awning sign proposed.	N/A
	3. *Under awning signs must maintain a 2.6 metre clearance above ground level and must not project beyond the edge of the awning. They must be limited to one sign per street frontage located under or below the awning level, and are not to exceed 5m2.*	N/A, no under awning sign proposed.	N/A
	4. *Roof/sky signs and structures must not protrude above roof lines in any form, including mountings/structural supports. They must integrate with the architectural form or roofline of the building. The advertising structure/sign must not visually dominate or detract from the skyline, the streetscape or the building.*	N/A, no roof/sky signs proposed.	N/A
	5. *Identification signs – including nameplates on professional offices, community facilities, recreational facilities, rural pursuits or residences for home businesses or industry – are limited to 1m2, and one sign per street frontage.*	N/A, proposal is for commercial operations not listed.	N/A
	6. *Flush wall and hamper signs must not extend laterally from the wall, or beyond the edges of the wall. If internally illuminated, they must maintain a minimum of 2.6 metres above ground level. They must not exceed 25 percent of the wall space for each frontage.*	Flush wall signs do not extend beyond the bounds of the wall they are located. The signs are internally illuminated and are located above 2.6m above ground level. They are well below the 25% for each frontage they address.	Y
	7. *Projecting wall signs must maintain a 2.6 metre clearance above ground level and must not extend above the top of the wall. They must not interfere with street planting or street fixtures (eg: light poles) and must not have an area greater than 4m2. When the sign is less than three metres above ground level, it must be setback 1.5 metres from the kerb line. When the sign is more than three metres above the ground, it must not extend beyond 300mm from the wall.*	N/A, no projecting wall signs proposed.	N/A
	8. *Projecting wall signs above an awning must not have an area greater than 4m2, and must not extend beyond the vertical plane 300mm from the wall.*	N/A, no projecting wall signs proposed.	N/A

	9. Pole and/or pylon signs (freestanding) must be a maximum height of six metres from ground level with a minimum clearance of 2.6 metres above ground level. The maximum width must be 3.75 metres, with a maximum depth of one metre. Signage must be limited to one freestanding sign for each business/occupancy on each street frontage, including flagpoles containing advertising material.	The proposed pylon sign is 7m high non-compliant with the control. The additional 1m is a minor exceedance and aims to incorporate signage for the two proposed land uses and the required fuel priceboard resulting in an overall reduction of signage proposed and avoidance of potential signage clutter. The minor exceedance is considered appropriate for the proposed development.	N, justified
17.4 Illuminated, Flashing, and Moving Signs	*1. Signs must be mounted and/or permanently fixed so that they do not flash, rotate or move in any way.*	All signs are securely fixed and none are designed to flash, rotate or move in any way.	Y
	2. Signs must not emit excessive glare or cause excessive reflection.	Signs are not designed to emit excessive glare or cause excessive reflections.	Y
	3. Advertising signs must not resemble traffic warning or hazard signs.	No signs will resemble traffic warnings or signs.	Y
17.6 Multiple Tenancy Signage	*1. Where the signage relates to multiple tenancy/occupancy, an entry/directory board signage structure must be used, rather than individual signs for each tenancy.*	The proposed pylon integrated signage space for the two proposed tenants.	Y
	2. Multiple tenancy/occupancy entry/directory boards and advertising panels must have an integrated theme approach to signage in the Industrial Zones and Business Zones. They must not obstruct traffic vision or create safety hazards, and be located clear of underground or overhead services. The maximum allowable height is six metres, and there must be only one entry/directory board/ advertising panel per street frontage.	Noted, a single theme will be established. The sign has been located and designed to not obstruct traffic vision or create any hazard.	Y
Part 10 Area Plans			
Part 10.6: Mount Hutton Town Centre			
2 Development Controls			
2.1 Variations to controls	*Any variations to the controls should be assessed against the relevant objective. Any proposed variation must achieve a comparable or better outcome than the outcome that would be achieved by compliance with the controls*	Noted, variations will address the relevant objectives to ensure amicable outcomes are achieved.	Y
2.2 Block controls	*Development must comply with the Block Controls for Block A.*	Due to the nature of the proposed land use and other requirements for the service station, the development has been setback from the front boundary resulting in a non-compliance with the block controls.	N, justified
Street awnings	*1. Development on Wilsons Road between Warners Bay Road and Violet Town Road must provide cantilever awnings, with a minimum depth of three metres to at least 50% of the building frontage.*	Cantilever awnings incompatible with the nature of the proposed land uses. Building is setback from boundary.	N, justified

	2. *Development on Wilsons Road between Violet Town Road and 74 Wilsons Road must provide cantilever awnings, with a minimum depth of three metres to building entries.*	N/A, site not located in described area.	N/A
	3. *Development of Centro Lake Macquarie must provide continuous cantilever awnings to the pedestrian walkway and footpath trading spaces on the northwestern, and western aspects of the building*	N/A, site not located in Centro Lake Macquarie.	N/A
5 Access and parking			
5.1 Site access- Wilsons Road west	1. *For the western section of Wilsons Road, vehicle access to a development site must be obtained from a side street or from the rear of the lot where feasible.*	While a crossover from Ada Street is proposed, further crossovers from Wilsons Road is also proposed to facilitate the proposed fuel tanker deliveries.	N, justified
	2. *Parking areas must be located at the side or rear of the lot.*	Proposed car parks are located on side boundary and in front of the proposed building fronting a side boundary.	Y
	3. *Shared vehicle access must be considered for multiple developments.*	Proposed car parking is shared between the two land uses.	Y
	4. *Car parking areas must be designed to meet the Crime Prevention Through Environmental Design (CPTED) Guidelines.*	Car parking areas and overall site layout have been designed in accordance with CPTED guidelines. See crime risk assessment in Appendix I.	Y
6 Building design			
6.1 Setbacks on Wilsons Road	*Development on Wilsons Road must be set back a minimum of five metres from the road boundary. The setback area must be reserved for tree planting and must not include car parking.*	A 7m setback from the Wilsons Road boundary has been provided. Landscaping and drive through element have been provided within this proposed space with no car parking provided in the front setback area.	Y
6.2 Side and rear setbacks	1. *Side and rear building setbacks must be consistent with the block Control plans and sections.*	The proposed development complies with side and rear setbacks in accordance with the applicable block controls.	Y
	2. *Buildings must be setback a minimum of 1.5m from the side and rear boundaries for the first level.*	Noted, side and rear setbacks exceed 1.5m.	Y
	3. *Development adjacent to a residential zones lot at the rear must be setback a minimum of 6m from the rear boundary.*	A 9.112m rear setback has been provided.	Y
6.3 Maximum building height	*The maximum number of storeys must comply with the block controls and sections (2 storeys)*	The proposed development proposes 1 storey complying with the building height control.	Y
6.4 Maximum occupied area	*Development must be consistent with the maximum occupied area controls as shown in the Block Controls and Sections*	The proposed building has been designed to concentrate occupied area to the area shown in Block A with lower occupied area located to the rear.	Y

7 Landscape			
7.1 Planting on private land	1. *Development on Wilsons Road must include retention, or installation and maintenance of at least one advanced clear-trunked broad-canopy tree within the front setback area, for every six metres of frontage.*	Due to the requirements of a service station development the amount of landscape area provided on the Wilsons Road frontage is limited. To compensate, street trees are proposed locating a number of Water/Kanooka Gums along both the Wilsons Road and Ada Street frontage to improve the visual amenity of the area.	Y
	2. *Development must provide streetscape planting and street improvements consistent with Council's Mount Hutton Streetscape Master Plan.*	The proposed Water/Kanooka Gum street trees to be planted by the proponent is consistent with the desired outcomes for this portion of Wilsons Road.	Y
8 Block Controls			
 **Figure 3 - Block A Control Plan**  **Figure 4 - Block A Section A-A**	Noted in above sections.	-

STATEMENT OF ENVIRONMENTAL EFFECTS

Demolition of Existing Building; and the Construction and Use of a New Service Station and Food and Drink Premises

PREPARED FOR REYNOLDS PROPERTY PTY LTD | MARCH 2022

SLR

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Statement of Environmental Effects

FINAL

Report Reference No.: 19460
Dated: March 2022

Environmental Assessment

Prepared by: KDC Pty Ltd | ABN 61 148 085 492 | www.kdc.com.au

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Environmental Planner
KDC Pty Ltd

Address: Suite 2, 125 Bull Street, Newcastle West NSW 2302

In respect of: Reynolds Property Pty Ltd

Application and Land Details

Applicant:	Reynolds Property Pty Ltd C/ - KDC Pty Ltd
Applicant Address:	Suite 2, 125 Bull Street, Newcastle West NSW 2302
Land to be developed:	10-14 Wilsons Road, Mount Hutton, NSW 2290
Project:	Construction and use of a service station and food and drink premises

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EXECUTIVE SUMMARY

This Statement of Environmental Effects (SEE) is submitted to Lake Macquarie Council (Council) in support of a Development Application (DA) at 10-14 Wilsons Road, Mount Hutton, NSW 2290 for the following:

- Demolition of three (3) existing dwellings site including ancillary structures, fencing, trees vegetation, and driveway crossovers;
- Construction of separate ingress and egress driveways on Ada Street and Wilsons Road;
- Construction and use of a service station with convenience store (212.5m^2), overhead fuel canopy, underground fuel tanks and infrastructure, loading bay, garbage yard, and plant areas;
- Construction and use of an attached food and drink premises (137.5m^2);
- Site landscaping, including a 1.5m landscape strip along the northern boundary;
- Parking and manoeuvring areas;
- Designated signage areas;
- Acoustic fencing along the northern, eastern, and western site boundaries;
- 24/7 operations for service station and 6:00am to 12:00am for the food and drink premises; and,
- Other minor works as illustrated on the proposed plans included at Appendix A.

The proposed service station development will provide a valuable services and facility within a highly accessible and convenient location of Mount Hutton. As discussed in the Mount Hutton Streetscape Master Plan, providing structure and enhancing its character is a key objective for Mount Hutton Development such as that proposed under this DA will greatly assist in providing the services and facilities required to support that growth.

The proposal is generally compliant with relevant legislative requirements and Environmental Planning Instruments. The proposal is permissible and consistent with the objectives of the B2 Local Centre Zone under the LMLEP 2014. The development is compliant with the relevant LEP clauses, presenting no variations to any development standard.

While the proposal is generally compliant with the requirements of DCP 2014 a small number of variations are required particularly in relation to landscaping and the proposed pylon sign. The proposed variations have been discussed in the body of this SEE and are considered reasonable in the circumstances given the nature of the development and surrounds, the strategic direction for the local centre and overall DCP objectives satisfaction.

The proposed development incorporates high-quality building presentation and signage with an integrated overall approach to site development. The design of the development incorporates appropriate wastewater and stormwater management to prevent contamination of water and soil. Amenity impacts on surrounding properties will be minimised through design and mitigation measures as proposed.

This SEE has addressed the potential impacts arising from the proposal on surrounding properties including traffic, access and parking, noise, odour, visual amenity, and waste and water management. Where necessary, mitigation measures are proposed to minimise these potential impacts and reduce potential risk associated with the development. Furthermore, it is in the interest of the future operators to employ strict management procedures for each premises to ensure that the development is a safe, efficient, and pleasant environment in which to work and visit.

Given the merit of the design and the absence of any significant adverse environmental impacts or planning issues, the DA is considered to be in the public's interest and worthy of Council's support.

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1 INTRODUCTION

This Statement of Environmental Effects (SEE) is submitted to Lake Macquarie City Council (Council) in support of a Development Application (DA) for a service station and food and drink premises at 10-14 Wilsons Road Mount Hutton 2290 (the site).

Specifically, the proposed development includes:

- Demolition of three (3) existing dwellings site including ancillary structures, fencing, trees vegetation, and driveway crossovers;
- Construction of separate ingress and egress driveways on Ada Street and Wilsons Road;
- Construction and use of a service station with convenience store (212.5m^2), overhead fuel canopy, underground fuel tanks and infrastructure, loading bay, garbage yard, and plant areas;
- Construction and use of an attached food and drink premises (137.5m^2);
- Site landscaping;
- Parking and manoeuvring areas;
- Designated signage areas;
- Acoustic fencing along the northern, eastern, and western site boundaries;
- 24/7 operations for service station and 6:00am to 12:00am for the food and drink premises; and,
- Other minor works as illustrated on the proposed plans included at Appendix A.

This SEE has been prepared by KDC Pty Ltd (KDC) on behalf of Mt Hutton LF Pty Ltd. It describes the site, its environs, the proposed development and provides an assessment of the proposal in terms of the matters for consideration under Section 4.15 (1) of the Environmental Planning and Assessment Act 1979 (EP&A Act 1979). It should be read in conjunction with the supporting information and plans prepared by Brown Build appended to this report (Appendix A).

1.1 CONSULTATION WITH COUNCIL

Council comment on the proposal was received via email on the 30 October 2019 from Council representatives:

- Jonathan Ford – Development Planner
- Cameron Evans – Development Engineer
- Chris Baker – Principal Environment Officer
- Gabrielle Calcagno – Senior Strategic Planner
- Michael Little – Administration officer (Minute Taker)
- Ian Barret – Administration Officer (Observer)

Table 1 summarises the matters raised by Council in the advice letter and provides comments on each of the matters raised, nothing the concept plan presented at this meeting has changed due to the feedback received.

Table 1 – Consultation with Lake Macquarie City Council

Matters Raised	Comments
Vision for the Area	
Specific Development Control Plans are applicable to: • The site - Mount Hutton Town Centre Area Plan (TCAP); and • The development type - service station. Regarding the TCAP, the desired future character statement for the area provides: *As the main access corridor, Wilsons Road should be enhanced as a pleasant tree-lined road with buildings setback for tree and landscape planting.* *The western side of Wilsons Road should provide low scale development oriented to the street. This area is suitable for small-scale retail and local services, such as health consulting rooms and personal services.*	The noted DCP sections have been addressed within the DCP assessment table at Appendix C.
The provision of a service station is not considered to be intrinsically counter to achieving these objectives, however special focus will be given to landscaping treatments given the lack of streetscape activation. A detailed landscape plan, prepared by a suitably qualified landscape architect, will be required for the development.	Noted, the proposed development incorporates boundary landscaping to improve the visual amenity of the site and contribute to the overall streetscape along Wilsons Road. A Landscape Plan prepared by JK Garden Creations has been provided in Appendix H.
Controls alluding to building forms and street awnings are not considered applicable to the proposal.	Noted.
The development appears to comprise an oversupply of car parking from Council's rate. Provisions in the TCAP specify that front setback areas should be designated for landscaping, and not contain car parking. It is also unclear whether a double width entry from Wilsons Road is required. Council recommends removing the proposed front setback car parking, reducing the width of the western entry from Wilsons Road, and utilising the resultant space for enhanced landscaping treatments.	The plans have been amended to remove the parking along the Wilsons Road frontage. The entry has been reduced as much as possible whilst providing sufficient room from truck manoeuvring into and out of the site in a forward manner.
Council notes the proponent's purpose for oversupply of car parking spaces with the view of creating a destination for food service and supply rather than a side to the main purpose being the service station and catering for potential or future business growth. At present the tenant for the food premise is undecided.	A drive-through element has been included in the development design to encourage a higher degree of passing trade and combined trade from site visitors over a more traditional destination based system. Under the RMS guidelines 16 spaces are required, 17 have been provided to reduce the 'over supply' from the previous design.
Sufficient area in the front setback area should be provided for one advanced clear-trunked broad-canopy tree for every six metres of both frontages.	Clear-trunked broad-canopy trees have been included in the proposed landscaping where possible, refer to Appendix H.

Walls presenting to the public domain are to consider visual impacts to the street. Incorporation of glazing, high quality finishes and landscape screening are considered suitable responses. Streetscape upgrades will be required in accordance with the Mount Hutton Streetscape Masterplan and associated technical guidelines. This will include street tree planting and 1.5m footpath for the entire development frontage. Further specific landscaping and dimensional specifications are provided under Council's Service Station DCP. The submitted concept plan appears generally compliant with the provisions of the plan, but should consider: • The likely long-term viability of plantings on a batter • Vegetated buffers must consist of species that will form a visual screen of 4m within 3 years • 20% coverage for deep soil planting should be achieved Maintenance of visual and acoustic privacy for the adjoining residence will be a key consideration, particularly if 24-hour operation is proposed. A visual impact assessment is not considered necessary, however photomontages should be included in the plan suite.	The building presentation to public interfaces incorporates glazing and attractive high quality finishes supported by landscaping screening to improve visual presentation. Blank walls presenting to the public domain have been eliminated in the present design. Noted, the Landscape Plan (Appendix H) has been designed in accordance with the desired landscaping described within the Mount Hutton Streetscape Master Plan and technical guide. With consideration of site constraints and the nature of the development, the proposed landscaping has been designed with consideration of Council DCP noting *Section 9.15 Service Stations.* The landscaping species consist of low maintenance native varieties which are hardy and expected to have long-term viability in the proposed location. The proposed landscaping will provide an effective visual screen to the building responding to the proposed finished levels. A high level of deep soil coverage has been provided along the Ada Street frontage Noted, appropriate visual and acoustic privacy is proposed for the development. Coloured elevations with materials and finishes have been provided to demonstrate the visual appearance of the development.
Traffic and Access A Traffic Impact Statement is required for the proposal. In addition to consideration of traffic generation, parking and movements, the statement should specifically consider: • Safety risks / implications from righthand turns into the development from westbound traffic • Additional road infrastructure and upgrades which may be warranted • Pedestrian movement and safety It is noted that the pedestrian refuge out the front on Wilsons Road is partly over the proposed entry. A right turn into the site driving North West would not be permissible. Council's Asset Management department will provide specific comment on the statement and proposed traffic arrangements as part of the DA but may require extension	A Traffic Impact Assessment (TIA) has been undertaken by Varga Traffic Planning and has been provided at Appendix D. The assessment includes consideration of safety risks, access impacts on road operation, assessment of the need for road infrastructure upgrades, and pedestrian movements. Noted, the island is proposed to remain restricting the stated right turn movements. Pedestrian links are to be maintained. Noted, requirements for upgrades to be discussed during DA assessment to achieve an appropriate solution for both parties.

of the pedestrian refuge or for refuge to be changed in some way, to prevent right turn movements.	
There are also bus stops on either side of Wilsons Road. The proponent will need to ensure access driveways are not in conflict with these (there is a diagram in the streetscape masterplan document of where Council would ideally like for relocation of bus stops and potential for pedestrian crossing in place of refuge).	Arrangements for bus stop move are to be made with discussions with Council during DA assessment to ensure outcomes for both parties are achieved.
Road widening may be required along Wilsons Road, due to any change that may be required for the pedestrian refuge and to facilitate better traffic flow along Wilsons Road.	Noted.
Swept paths, showing compliant movements for all expected vehicles, is required.	Vehicle swept paths have been provided within the Architectural Plans at Appendix A.
Council would like to see the southern entry driveway on Wilsons Road reduced to a 6 metre width. Council seeks a reduction to assist with pedestrian safety. The pathway along Wilsons Road is a link connecting to the shopping centre.	The proposed crossovers to Wilsons Road have been sized to accommodate the 19m articulated fuel tanker to safely enter and exit the site in a forward manner. The proposed design minimises the width where possible inline with Council's desired outcome.
A right turn treatment from Wilsons Road into Ada Street may be required, to prevent blocking traffic flow on Wilsons Road.	A right turn treatment from Wilsons Road into Ada Street is not considered to be required as the Ada Street and Wilsons Road intersection is projected to continue to operate at a 'A' level of service post-development.
Driveways are to comply with Australian Standards and show clearance templates for the largest proposed vehicles on site.	All proposed driveway crossovers have been designed in accordance with Australian Standards to accommodate the largest proposed vehicle which will enter the site being the 19m articulated fuel tanker.
The refuelling area needs to be identified on DA plans and shouldn't be in a location that can block egress or ingress to site in order to allow primary function to continue.	Refuelling area is noted on the provided Architectural Plans in Appendix A. The refuelling point has been located to minimise any impact on other vehicles manoeuvring through the site.
The proponent is to demonstrate via swept path templates that a garbage truck can access the proposed waste storage location.	Service vehicles and garbage truck swept paths have been provided within the provided within the Architectural Plans at Appendix A.

Council advises that Ada Street is a local road. If heavy vehicles are proposed to enter site from this street, the proponent may be required to upgrade pavement and is to be assessed at DA stage.	The proposed design has been revised to minimise impact on Ada Street by allowing the fuel tanker to access the site from Wilson Street.
Stormwater	
Whilst the site is not within Council's Flood Planning Area, it is still located with an area of the LGA that can be inundated in the 1 in 100 year event. This section of Mount Hutton is a sag point and this intersection can become flood affected in large storm events. The driveway entrance will need to be constructed to prevent overland flow into the development.	Noted, potential localised flood and overland flow have been considered in the stormwater management system design. The driveway crossover has been constructed to prevent flow into the development site.
Overland flow from Wilsons Road will need to be managed with design of accessways. Reduce impact on neighbouring sites by conveying stormwater overland flow towards Ada Street, up to and including the 1% AEP storm event.	The site has been designed to direct overland flows from storm events up to and including 1% AEP to Ada Street minimising impacts on neighbouring properties.
Council advises that a stormwater management plan is required in line with the DCP addressing stormwater quality and quantity.	The proposed Stormwater Management Plan (Appendix B) has been prepared in accordance with the DCP achieving stormwater quality and quantity outcomes.
The proponent will also need to ensure segregation of drainage to enable refuelling areas to be separate from normal site drainage. An agreement with Hunter Water is required.	The fuel forecourt is afforded with a dedicated stormwater management system designed in accordance with the NSW EPA *Managing run-off from service station forecourts.* Any required agreement with Hunter Water will be obtained.
Stormwater upgrade works have recently been undertaken in Ada Street by Council.	Noted.
Adjustment to Kerb Inlet Pits or drainage infrastructure will not be permitted for driveways.	Noted, kerb inlet pits and other drainage infrastructure will be maintained or incorporated into the design.
Geotechnical constraints apply to a small portion of the site, however further reporting / investigations are not considered warranted in this regard.	Noted, no geotechnical investigation has been undertaken for the proposed development.
The proponent is to be mindful is proposing any retaining walls on boundary (1 metre off boundary required) or retaining wall proposed through drainage easement on site. Council will need to see further detail of design.	Designs for the proposed retaining walls have been provided in the civil engineering plans at Appendix B. Retaining wall setbacks vary through the site responding to needs of the space.

Acoustic / Trading Hours An acoustic report is required for the development. The positioning of plant equipment, air / water points and paths of vehicle travel should be considered in the acoustic assessment. Other items to consider include car door closing and conversations.	A Noise Impact Assessment has been prepared by Muller Acoustic Consulting and has been provided at Appendix G.
The provision of substantial acoustic screening walls and the like must consider potential impacts on streetscape amenity, views from adjoining blocks and overshadowing. Other impacts arising from 24-hour operation should also be considered, including the capacity for light spill.	Noted, acoustic screening has been located to minimise visual impacts whilst maximising effectiveness. Appropriate fencing along with lighting location and design is to be implemented to minimise light spill.
The design should also ensure proper filtration from the fast food premise.	Appropriate filtration is proposed for the food and drink premises.
Garbage location and smells that could impact residential amenity are to be considered and how garbage pick-up will function.	Service yard area has been appropriately located and screened to minimise impact on residential neighbours.
<u>Additional Comment</u> The application will be dealt with under delegated authority, unless the item is called before the elected Council. It is not expected that this development will trigger Regional Planning Panel to become the consent authority. Exceedance over the Development Standards (i.e. building height) by 10% would also trigger referral to the elected Council.	Noted. No development standard variation is sort and the CIV remains below the designated RPP referral.
New service stations to comply with regulations requiring specific venting triggers to reduce vapours.	A stage 2 vapour recovery (VR2) equipment will be installed at the petrol tanks in accordance with Protection of the Environment Operations (Clean Air) Regulation 2019.
Bulk gas requires exclusion zones around residential areas. The proponent will need to determine the size of tanks proposed in line with exclusion zones.	N/A, no bulk gas tank proposed.
<u>Hazardous Industry and SEPP 33</u> A risk assessment is to be undertaken with regard to proposed storage and distribution of hazardous materials on site. The risk assessment should inform the application of storage, screening and offset measures to be	A SEPP33 risk screening assessment has been undertaken by Hazkem and provided at Appendix F. The proposed development is considered to be non-hazardous with all infrastructure to be installed in accordance with all Australian Standards and requirements.

incorporated into the development in accordance with SEPP 33 and associated guidelines.	
Non-discriminatory Access An access audit is to be provided for the proposal. Compliant paths of travel, from the site boundary and non-discriminatory car space, to the internal aspects of the development, will need to be demonstrated in accordance with AS1428.	Pedestrian pathways and the accessible parking space have been proposed and will be designed in accordance with AS1428.
88B and other restrictions As noted on the submitted concept plan, a drainage easement intersects the site. A survey plan should accompany the DA, noting the location of the easement and any actual services (pipes) intersecting or fronting the site.	A survey has been undertaken and the drainage easement has been noted within the Architectural Plans at Appendix A. The proposed works in the easement area largely consists of landscaping and car parking areas and is able to be accessed.
Crime Risk A Crime Risk Assessment is required for the proposal. The CRA is to be completed by a person who has undergone NSW Police - Safer by Design training. The CRA will be forwarded to NSW Police for assessment.	A Crime Risk Assessment has been undertaken and provided in Appendix I.
Waste Management A detailed waste management plan is required. In particular, operation details of problem wastes, and their disposal methods, is required.	A waste management plan has been provided in Appendix J.
Building Height A 6m height limit is applicable to pylon signage. A 10m height limit is applicable to buildings.	A 7m pylon sign has been included, exceeding the requirement. The pylon will incorporate business identification for both land uses along with the fuel price board reducing the number of proposed signs and signage clutter.
Contributions A levy will be applicable to the development pursuant to Section 7.12 of the Act. The levy is proportional to the cost of works. A detailed cost of works / quantitative survey should be provided at lodgement.	Noted. A Quantity Surveyors report has been provided alongside the provided documentation.
Signage Signage should respond to Council's Signage DCP and SEPP 64. Signage plans will be required.	An assessment of the provisions of Council's DCP and SEPP64 has been provided at Appendix C.

Relevant DCP Sections: Part 4 - Business Zones Part 9.15 - Service Stations Part 10.6 - Mount Hutton TCAP Signage DCP	Noted, an assessment against the relevant controls of the Lake Macquarie DCP 2011 has been undertaken in Appendix C.
Development Contributions It is important to make contact with the Development Contributions team to establish if a development contribution applies to your proposal. Lake Macquarie City Council levies for a wide range of development types. The Development Contributions team can provide advice in relation to development contributions and can be contacted as follows: • By email on developmentcontributions@lakemac.nsw.gov.au; or • By telephone on 02 4921 0333 Please note: Development Contributions are levied in accordance with the contributions plan in place at the time of development approval. Development contributions are indexed each quarter with CPI (August, November, February and May).	Noted, development contributions are to be paid if required.
Capital Investment Value (CIV) It is important to establish the Capital Investment Value (CIV) of your proposal. Details regarding what constitutes CIV can be found here. Generally, developments with a CIV more than $30M are Regional Development under State Environmental Planning Policy (State and Regional Development) 2011 and must be determined by the Hunter and Central Coast Regional Planning Panel. Some other types of developments are also captured as Regional Development, so it is important you review the legislation.	Noted. A Quantity Surveyors report has been provided alongside the provided documentation.

Ongoing consultation has been undertaken with council throughout the end of 2021 and Jan/ Feb 2022 to further design. This has resulted in the introduction of the 1.5m landscape strip along the northern boundary to provide a softening of the interface between the development and the northern neighbour.

2 SITE ANALYSIS

2.1 SITE LOCATION AND CONTEXT

The site is located north of Wilsons Road and east of Ada Street which falls within the Lake Macquarie Local Government Area (LGA). The site comprises of three (3) parcels of land, generally known as 10, 12 and 14 Wilsons Street, Mount Hutton (refer to Figures 1 & 2 for site location).

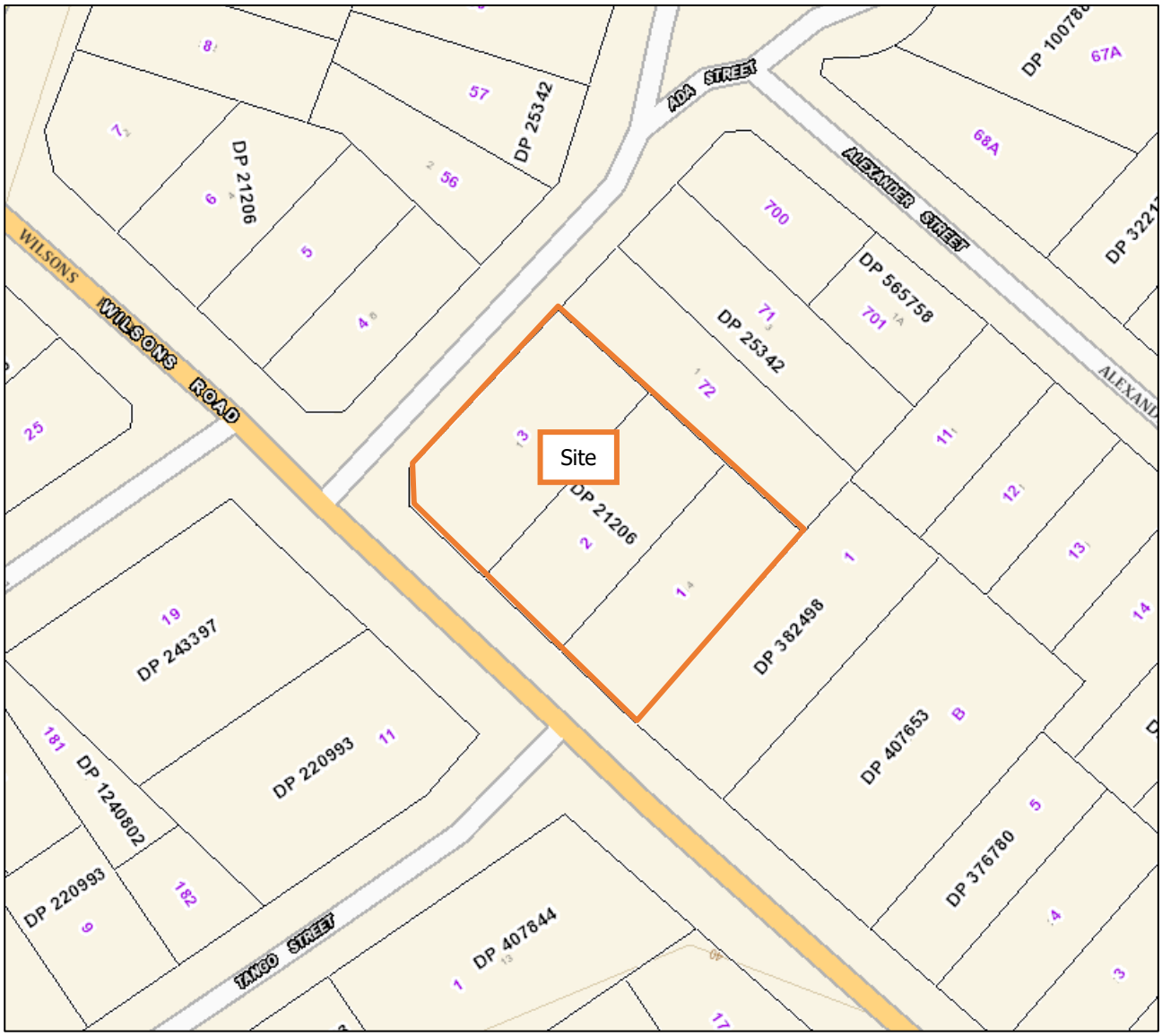
Figure 1 – Locality Plan (Source: Six Maps)

2.2 SITE DESCRIPTION

the site comprises of three parcels of land, legally described as Lot 1,2 & 3 in DP 21206. The site has a 54.63m frontage along Wilsons Road and 38.1m frontage to Ada Street with an area of approximately 2,529.2m^2 as shown in Figure 1. Lot 1 and 2 each contains a residential dwelling with ancillary structures while Lot 2 currently accommodates an osteopathy establishment and a bus stop next to the driveway on Lot 1. Existing vegetation on the site consists of mainly turf three large trees. There is also a utility pole on Lot 3 next to Wilsons Road.

Survey detail has been included at Appendix A.

Figure 2 – Cadastral Plan (Source: Six Maps)



2.3 SURROUNDING DEVELOPMENT

The site is adjoined by single dwellings to the north west across Ada Street and both the north east and south east.

A commercial strip of shops is located to the south west of the site across Wilsons Road and includes a mix of shops, offices, and food and drink premises. A Telstra telecommunications exchange is located to the south across Wilsons Road.

Further abroad is Lake Macquarie Square shopping centre located approximately 135m to the south east. The shopping centre includes a broad range of commercial premises ranging department stores and tavern.

3 PROPOSED DEVELOPMENT

This section of the SEE provides a detailed description of the proposed development.

3.1 ELEMENTS OF PROPOSED DEVELOPMENT

The proposal includes the following:

- Demolition of three (3) existing dwellings site including ancillary structures, fencing, trees vegetation, and driveway crossovers;
- Construction of separate ingress and egress driveways on Ada Street and Wilsons Road;
- Construction and use of a service station with convenience store (212.5m^2), overhead fuel canopy, underground fuel tanks and infrastructure, loading bay, garbage yard, and plant areas;
- Construction and use of an attached food and drink premises (137.5m^2);
- Site landscaping;
- Parking and manoeuvring areas;
- Designated signage areas;
- Acoustic fencing along the northern, eastern, and western site boundaries;
- 24/7 operations for service station and 6:00am to 12:00am for the food and drink premises; and,
- Other minor works as illustrated on the proposed plans included at Appendix A.

3.2 DEMOLITION

It is proposed to remove all existing site improvements including the existing dwellings, detached garages and sheds, trees and vegetation, fencing, and driveway crossovers.

Demolition waste has been identified as a waste stream and details are provided within the Waste Management Plan attached at Appendix J.

Demolition will be carried out in accordance with AS 2601 - 2001. Protection of the public and the environment in terms of dust and noise control will be considered and actioned prior to demolition commencing.

3.3 EARTHWORKS

Earthworks are proposed to facilitate appropriate levels for the development suitable for its location on the corner of Wilsons Road and Ada Street. Due to the topography of the existing site, a total of 1,043.58m^3 of material is proposed to fill the site to proposed levels. The deposit is largely located to the north eastern boundary. This fill is to be supported by a retaining wall.

The proposed earthworks will ensure the development is of an appropriate level enabling suitable stormwater management for the hardstand areas.

3.4 SITE DESIGN

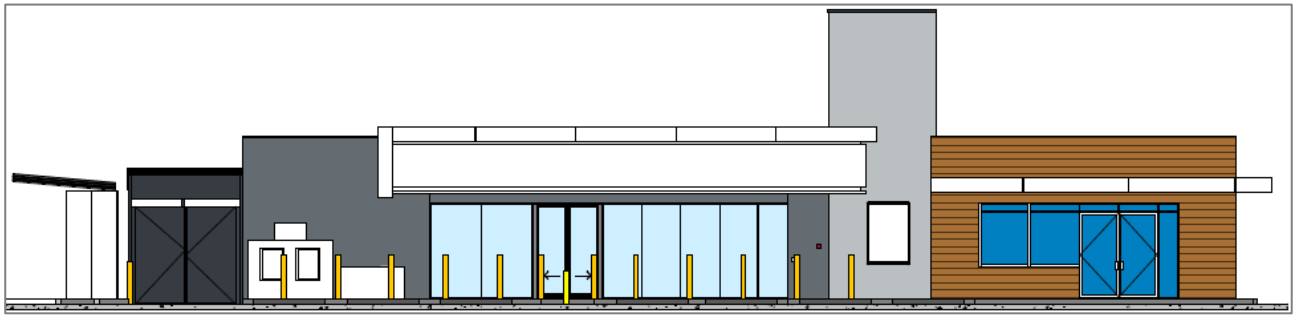
The site will contain a single storey building consisting of a service station convenience store and an attached food and drink premises. These two operators will share at grade car parking and access provisions along with shared loading bay and service yard area. Separate entries into each tenancy will be clearly signposted at the front of the building.

Built Form

The building is of a simple, modern design, with colours and finishes to be consistent with the future occupant's corporate theme(s). The nominated materials for the building are identified on the Plans at Appendix A and include precast concrete wall panels, metal parapet capping, compressed cement sheeting, Alucobond cladding, and clear glass with powder coated frames. The palette is subtle and will integrate into the surrounding area.

An extract of the front elevation of the proposed building is provided in Figure 3.

Figure 3 – Front Elevation of Building (facing Ada Street)



A more detailed description of each operation and the particulars of the shared aspects of the overall site are discussed below.

3.4.1 SERVICE STATION

The proposed service station will include:

- Convenience store portion of the proposed building – 212.5m² GFA comprising customer service counter and retail floor space, office, store room, cool room, amenities, and screened plant equipment;
- Petrol filling area (appropriately bunded) with fuel canopy over, containing 3 double sided bowsers;
- External storage and display of ice machine and LPG gas bottles;
- Underground fuel tanks and associated infrastructure (further details below); and
- Other minor elements noted on Architectural Plans provided at Appendix A.

Tank Details

There will be two underground double wall fiberglass fuel tanks (split compartment). Fuel tank capacity is indicated in the Table 2.

Table 2 – Fuel Tank Capacity

Product	Compartment No.	Capacity
ULP	1	50,000L
E10 Petrol	2	30,000L
95 Petrol	3	30,000L
98 Petrol	4	30,000L
Diesel	5	40,000L
Total Capacity		**180,000L**

The underground fuel tanks are prefabricated off-site and will be transported to the site prior to their installation. The proposed installation of the tanks will take approximately one week. The ancillary works and commissioning of the new tanks will take approximately 4-5 weeks.

The design and installation of the underground storage systems will comply with AS 4897-2008 and the *Protection of the Environment Operations (Underground Petroleum Storage Systems) Construction Management Regulation 2019.*

Refer to the Risk Screening Document prepared by Hazkem Pty Ltd in Appendix F, which provides further detail regarding the installation of the proposed underground fuel tanks and fuel infrastructure.

Operational Hours

The service station is proposed to operate 24 hours, 7 day a week.

Deliveries and Servicing

The proposed delivery schedule is estimated to be as follows:

- 1-3 fuel deliveries per week (19m articulated truck);
- 1-2 dry goods deliveries per week; and,
- Daily fresh food deliveries.

Tanker deliveries will be made using a large articulated vehicle (19m) as shown in the Swept Paths illustrated within the Plans at Appendix A. Hazardous Substances will be transported to site by approved Petroleum Products Road Tankers.

Food and supplies for the convenience store will be delivered to the loading bay designed with direct access into internal storage areas. Swept Paths for a service vehicle are shown at Appendix A.

Waste Management

Waste will be stored in the designated garbage yard where there will be a minimum of 2 bins provided (for the separation of general waste and recycling). Waste collection will be undertaken by a private contractor outside of peak operating hours. The refuse area for the service station is located adjacent to the loading bay.

Further details on waste management are provided in the Waste Management Plan at Appendix J.

3.4.2 FOOD AND DRINK PREMISES

The proposed food and drink premises will include the following elements:

- Portion of proposed building – 137.5m² GFA comprising customer service counter, drive-through service booths, dining area, office, store room, cool room, back of house areas, and amenities;
- Indoor seating for 15 people;
- Single lane drive-thru facility with capacity for 16 vehicles to queue along with order point, menuboards, height gantrys, directional signage and 2 x waiting bays; and
- Other minor elements noted on Architectural Plans provided at Appendix A.

Operational Hours

The food and drink premises is proposed to operate between 6:00am and 12:00pm 7 days a week (drive thru closing at 10pm)

Deliveries and Servicing

The proposed delivery schedule is estimated to be as follows:

- 1-2 dry goods deliveries per week; and
- Daily fresh food deliveries.

Food and supplies for the premises will be delivered to the delivery bay and generally occur early morning and late evening. This ensures that fresh produce is available each day. Swept paths for a service vehicle are shown at Appendix A.

Waste Management

Waste will be stored in the shared service yard. The corral allows ample capacity for one skip bin for general waste, one for recyclable waste, two comingled plastic and glass recycling bins and one used cooking oil waste vessel. Waste collection frequency will be discussed with the private waste contractor and will depend on store volumes once operational. Further details on waste management are provided in the Waste Management Plan at Appendix J.

3.5 SIGNAGE

An integrated, simple, and concise approach to external signage is proposed at the site to ensure signage proliferation does not occur.

Proposed service station signage comprises the following:

- 1 x 7m internally illuminated fuel priceboard;
- 3 x fuel canopy logo signs;
- 1 x logo sign above store entry;
- 1 x digital posterboard sign; and
- 2 x blade wall logo sign.

The proposed food and drink premises signage comprises the following:

- 1 x Business identification signage space on building parapet;
- Drive-thru signage including menuboards, height gantry, and directional signage.

In addition, general site signage will include a range of directional signage to assist site visitors traverse the site in a safe and efficient manner.

The service station pylon sign will meet legislative requirements for the appropriate display of fuel pricing for passing motorists. Refer to the Signage Plans at Appendix A for full signage specifications.

3.6 LANDSCAPING AND TREE REMOVAL

A total of three (3) trees and various shrubs are proposed to be removed to facilitate the proposed development.

To compensate, the proposal includes soft landscaping consisting of trees, shrubs, accents, grasses and groundcovers throughout the site totaling 330m^2 or 13% of the site area. Significant boundary plantings as well as a landscaped setback to Ada Street and Wilsons Road is incorporated to soften the visual impact of large areas of hardstand required for a development of this nature to ensure the functionality of the site.

A plant selection of mainly hardy native species is proposed suitable to the local environment to enhance the local urban ecology and enhance the current landscape character along Ada Street and Wilsons Road. The design promotes the safety of the community through the maximisation of natural surveillance whilst providing attractive boundary landscaping to the Ada Street and Wilsons Road frontages. A 1.5m wide landscape buffer is provided along the northern boundary to provide a softened and attractive presentation to the adjoining residential property.

Tuckeroo and Weeping Lilly Pilly trees provide car park shade, soften the space, improve visual amenity, and reduce the heat island effect. Water Gums are proposed for street planting to provide further softening supporting the proposed onsite plantings and improving the local visual amenity along the Ada Street and Wilsons Road streetscapes. A range of shrub and groundcover plantings provide attractive textural contrast, help define entry points, indicate direction and contribute to the enhancement of the local landscape character. The proposed plant schedule is provided in Table 3.

Table 3 – Plant Schedule

PLANT SCHEDULE TREES, SHRUBS, GRASSES & GROUNDCOVERS				Pot Size mm/ltr	Mature Size W x H mtrs
ID	Botanical Name	Common Name	Qty		
AAM	Acmena smithii 'Allyn Magic'	Dwarf lilly pilly	51	200mm	1 x 1m
CGBF	Callistemon 'Great Balls of Fire'	Dwarf white bottlebrush	83	200mm	1.5x1.5m
CA	Cupaniopsis anacardioides	Tuckeroo	5	45ltr	8 x 8m
DCTV	Dianella caerula ctvr	Cultivar flax lillies	120	200mm	.7 x .7m
DMG	Duranta mini gold		52	200mm	1 x 1m
GRM	Grevillea 'Royal Mantle'		12	150mm	G/cover
MP	Myoporum parvifolium	Creeping boobialla	8	150mm	G/cover
NOD	Nerium oleander dwarf		11	200mm	1.5x1.5m
ROP	Raphiolepsis oriental pearl		60	200mm	1 x 1m
RBL	Rosmarinus blue lagoon	Dwarf rosemary	3	150mm	1 x .7m
SL	Syzygium luehmannii	Weeping lilly pilly	2	45ltr	6 x 9m
STT	Syzygium tiny trev	Dwarf lilly pilly	50	200mm	1.5x1.5m
TTRI	Trachelospermum tricolour	Dwarf star jasmine	49	150mm	Clbr.G/cover
TLL	Tristaniopsis laurina 'Luscious'	Water gum	4	75ltr	5 x 9m
TVV	Tulbaghia violacea variegata	Ornamental Variegated society garlic	84	150mm	.3x.3m
ALL HEIGHTS ARE AVERAGE DEPENDENT ON SOIL, CLIMATE, MAINTENANCE, ETC.					

Further details of the proposed landscape scheme are provided within the Landscape Plans prepared by JK's Garden Creations and attached at Appendix H.

3.7 VEHICULAR ACCESS AND PARKING

The development is provided with separated entry and exit driveways to Wilsons Road along with a combined entry and exit to Ada Street, see plans at Appendix A. The new crossovers shall be constructed to Council standards and will provide for the turning movements of cars and service vehicles (including petrol delivery tankers), in accordance with the Australian Standard for Parking Facilities (Part 1: Off-street car parking and Part 2: Off-street commercial vehicle facilities), AS 2890.1:2004 and AS 2890.2 –2002.

Within the site, 17 dedicated parking spaces are provided including 1 disabled space at the front of the building and an air and water space. Parking spaces will be typically 2.6 metres wide by 5.5 metres long. The disabled parking spaces will be 2.4 metres wide, with a 2.4-metre-wide adjacent area for wheelchairs.

The one-way circulation aisles will be a minimum of 6.6 metres wide, and wider where aisles are used by service vehicles. These dimensions satisfy the requirements of the Australian Standard for Parking Facilities (Part 1: Off-street car parking and Part 6: Off-street parking for people with disabilities), AS 2890.1:2004 and AS 2890.6:2009.3.11. The internal layout will provide for a petrol delivery tanker to enter the site from Wilsons Road, circulate and make delivery before exiting in a forward direction onto Wilsons Road. Swept paths for delivery and service vehicles and are illustrated on the Plans at Appendix A.

3.8 STORMWATER MANAGEMENT

The proposed development site has been designed to collect water runoff and direct to the existing outfall.

Specifically, the proposed stormwater management arrangement includes:

- Runoff from the new roof areas of the convenience store are to be captured and directed to the proposed 2.5kL above ground rainwater tank. The collected rainwater will be reused internally within toilets. Any overflow from the rainwater tank will be directed to the proposed stormwater drainage network;
- Under-canopy runoff to be collected by a separate underground pipework and directed to a SPEL Puriceptor followed by entrance to the main site stormwater system;
- All hardstand areas will be captured in a series of surface inlet pits with pit inserts before being directed to the OSD tank;
- Stormwater is to be directed through a Stormfilter prior to discharge; and,
- The proposed 33.73m^3 OSD tank will reduce discharge from the site to the predeveloped flows (calculations provided on the Stormwater Management Plan at Appendix B).

Full details of proposed stormwater management arrangements are included within the Civil Drawings prepared Eclipse at Appendix B.

3.9 CONSTRUCTION MANAGEMENT

A Construction Management Plan will be prepared and submitted to the Certifier for approval prior to the issue of a Construction Certificate.

4 RELEVANT LEGISLATION

The following legislation, Environmental Planning Instruments (EPIs) and Development Control Plans (DCPs) are relevant to the proposed development:

- Environmental Planning and Assessment Act 1979;
- Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019;
- State Environmental Planning Policy 33 - Hazardous and Offensive Development;
- State Environmental Planning Policy 55 – Remediation of Land;
- State Environmental Planning Policy 64 – Advertising and Signage;
- State Environmental Planning Policy (Infrastructure) 2007;
- State Environmental Planning Policy (Koala Habitat Protection) 2019;
- Lake Macquarie Local Environmental Plan 2014; and,
- Lake Macquarie Development Control Plan 2014.

4.1 ENVIRONMENTAL PLANNING AND ASSESSMENT ACT

The proposal, as with all development applications, is subject to the provisions of the Environmental Planning and Assessment Act 1979 (EP&A Act). Section 4.15(1) of the EP&A Act, 1979 provides criteria which a consent authority is to take into consideration, where relevant, when considering a DA. An assessment of the subject DA, in accordance with the relevant matters prescribed under Section 4.15(1), is provided within this SEE.

It is noted, pursuant to Section 4.46 of the EP&A Act 1979, the proposed development does not trigger integrated development.

4.2 PROTECTION OF THE ENVIRONMENT OPERATIONS (UNDERGROUND PETROLEUM STORAGE SYSTEMS) REGULATION 2019

The proposal process will comply with Part 2 *Commissioning of storage systems* of the POEO Regulation including instillation, use and record keeping. The new tanks have been designed by duly qualified persons, will be installed by duly qualified persons, and the system will include the mandatory pollution protection equipment. Furthermore, an equipment integrity test of the system will be carried out in accordance with the written directions of a duly qualified person, and the system will be certified, by the person by whom the test was carried out, as having satisfied the test.

The service station tanks will also fully comply with Part 4 *Use of Storage Systems* including the preparation of an environmental protection plan that complies with the Environmental Protection Authority (EPA) guidelines prior to the use of the site as a service station. It will be reviewed and updated as required and a copy will be kept on site at all times.

4.3 PROTECTION OF THE ENVIRONMENT OPERATIONS (CLEAN AIR) REGULATION 2010

The proposed development will comply with the necessary requirements prescribed under Division 5 – Petrol Service Stations, Subdivision 3 - Stage two vapour recovery of the POEO (Clean Air) Regulation 2010 with stage 2 vapour recovery installed at the site.

4.4 STATE ENVIRONMENTAL PLANNING POLICIES (SEPP)

4.4.1 STATE ENVIRONMENTAL PLANNING POLICY NO. 33 – HAZARDOUS AND OFFENSIVE DEVELOPMENT

This plan aims to ensure that in considering any application to carry out potentially hazardous or offensive development, the consent authority has sufficient information to assess whether the development is hazardous or offensive and to impose conditions to reduce or minimise any adverse impact. A Risk Screening Analysis for the proposed service station has been carried out by Hazkem Pty Ltd and is provided at Appendix F.

As the proposed service station fill points and petrol dispensers are greater than 7.63m from normal land uses and 10.05m from any sensitive land use boundaries, the proposed development is deemed to be non-hazardous with no further assessment required under SEPP33.

4.4.2 STATE ENVIRONMENTAL PLANNING POLICY 55 – REMEDIATION OF LAND

Clause 7(1) of the SEPP states:

(1) A consent authority must not consent to the carrying out of any development on land unless:

(a) it has considered whether the land is contaminated, and

(b) if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and

(c) if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

A Preliminary Site Investigation (PSI) was prepared by Sullivan Environmental Sciences (SES) to assess the contamination status at the site, see Appendix E. The scope of works for the PSI comprised desktop review of site environmental setting and regulatory databases relevant to assess potential for contamination and ascertain the site suitability for the proposed commercial land use.

Based on the findings of the PSI, two items are raised as having low risk of contamination however due to this low risk the site can be made suitable for the proposed commercial land use.

4.4.3 STATE ENVIRONMENTAL PLANNING POLICY 64 – ADVERTISEMENT AND SIGNAGE

Clause 8 of SEPP 64 states the following:

A consent authority must not grant development consent to an application to display signage unless the consent authority is satisfied:

(a) that the signage is consistent with the objectives of this Policy as set out in clause 3 (1) (a), and

(b) that the signage the subject of the application satisfies the assessment criteria specified in Schedule 1.

The assessment criteria in Schedule 1 of the SEPP relates to matters for consideration such as character of the area; amenity of residential areas; views and vistas; streetscape, setting and landscape; site and building compatibility; illumination; and safety.

The proposed signage areas has been located and designed adopting a minimal approach to limit potential illumination impacts. It is not anticipated the proposed signage scheme will adversely cause or create detrimental impact to the vehicles travelling along adjacent roads.

It is considered that the proposal site signage satisfies the relevant criteria outlined within SEPP 64. Consistency of the development with Clause 3(1)(a) is discussed further in Section 5.4 of this report. A detailed assessment of the proposal against the Schedule 1 Assessment Criteria is provided in Appendix C.

4.4.4 DRAFT REMEDIATION OF LAND STATE ENVIRONMENTAL PLANNING POLICY

This draft SEPP will repeal and replace the current State Environmental Planning Policy No 55—Remediation of Land. The draft SEPP will make changes to Category 1 works (ie works that require development consent) and Category 2 works (ie works that may be carried out without development consent) amongst other minor changes. This will have no major bearing on the proposal.

4.4.5 STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007

This Policy provides a consistent planning regime for infrastructure and the provision of services across NSW, along with providing for consultation with relevant public authorities during the assessment process.

Clause 104 Traffic-Generating Development

(1) This clause applies to development specified in Column 1 of the Table to Schedule 3 that involves:

(a) new premises of the relevant size or capacity, or

(b) an enlargement or extension of existing premises, being an alteration or addition of the relevant size or capacity.

(2) In this clause, relevant size or capacity means:

(a) in relation to development on a site that has direct vehicular or pedestrian access to any road—the size or capacity specified opposite that development in Column 2 of the Table to Schedule 3, or

(b) in relation to development on a site that has direct vehicular or pedestrian access to a classified road or to a road that connects to a classified road where the access (measured along the alignment of the connecting road) is within 90m of the connection—the size or capacity specified opposite that development in Column 3 of the Table to Schedule 3.

The proposed development is defined as *Service stations without heavy vehicle refuelling or maintenance services* and *Take away food and drink premises with drive-through facilities with access to a road (generally)* under Schedule 3 of the Infrastructure SEPP and as a result the applicable threshold is 200 vehicles per hour.

The traffic generation projected for the development is 160 vehicle trips per hour (vtps). As a result, does not exceed the 200vtph threshold and therefore referral to TfNSW is not required. See Appendix D for traffic assessment report by Varga Traffic Planning.

4.4.6 STATE ENVIRONMENTAL PLANNING POLICY (KOALA HABITAT PROTECTION) 2019

A small portion of the site is mapped has Koala Development Application area and Site Investigation area for Koala Plan of Management under the Koala SEPP 2019, see Figure 4.

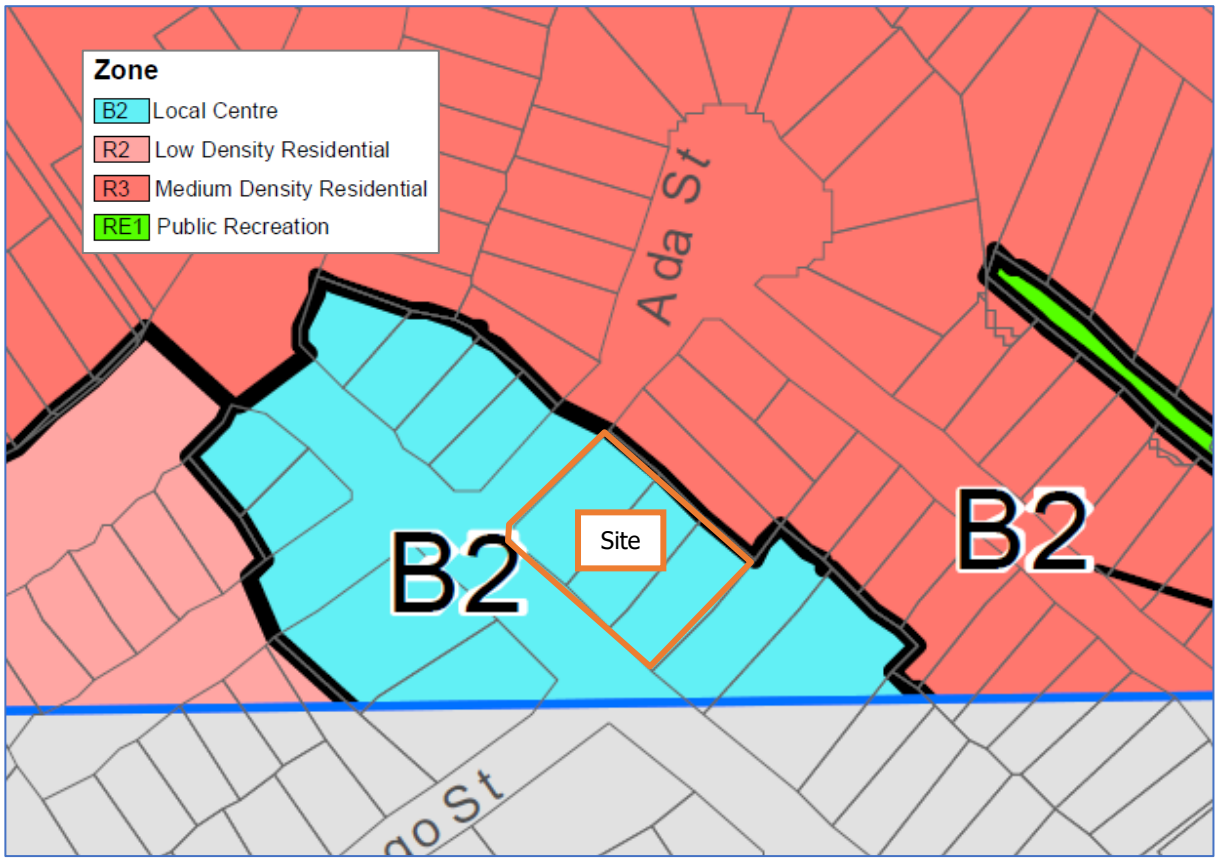
Figure 4 – SEPP Koala Habitat Protection map extract (NSW DPIE Interactive Map)

The site is located within an urbanised area with sparse and typically isolated trees located throughout the area. The proposed development will have no impact on any nearby Koala habitat, noting the tree shown on the north west boundary is no longer there.

4.5 LAKE MACQUARIE LOCAL ENVIRONMENTAL PLAN 2014

Pursuant to the Lake Macquarie LEP 2014 the site is zoned as B2 Local Centre, refer to Figure 5.

Figure 5 – Zoning Map Extract (LZN_009C)



Zone B2 Local Centre

1 Objectives of zone

- *To provide a range of retail, business, entertainment and community uses that serve the needs of people who live in, work in and visit the local area.*
- *To encourage employment opportunities in accessible locations.*
- *To maximise public transport patronage and encourage walking and cycling.*
- *To create spaces that are accessible and are a central focus for the community.*
- *To provide for housing as part of mixed use developments.*

2 Permitted without consent

Nil

3 Permitted with consent

Boarding houses; Centre-based child care facilities; Commercial premises; Community facilities; Educational establishments; Entertainment facilities; Function centres; Home industries; Hostels; Information and education facilities; Medical centres; Oyster aquaculture; Passenger transport facilities; Recreation facilities (indoor); Registered clubs; Residential flat buildings; Respite day care centres; Restricted premises; Roads; Seniors housing; Service stations; Shop

top housing; Tank-based aquaculture; Tourist and visitor accommodation; Any other development not specified in item 2 or 4

4 Prohibited

Advertising structures; Agriculture; Air transport facilities; Airstrips; Biosolids treatment facilities; Boat building and repair facilities; Boat launching ramps; Camping grounds; Caravan parks; Cemeteries; Charter and tourism boating facilities; Correctional centres; Crematoria; Depots; Eco-tourist facilities; Electricity generating works; Exhibition homes; Exhibition villages; Extractive industries; Farm buildings; Forestry; Freight transport facilities; Heavy industrial storage establishments; Highway service centres; Industrial retail outlets; Industries; Jetties; Marinas; Mooring pens; Moorings; Open cut mining; Pond-based aquaculture Recreation facilities (major); Recreation facilities (outdoor); Research stations; Residential accommodation; Resource recovery facilities; Rural industries; Sex services premises; Storage premises; Transport depots; Truck depots; Vehicle body repair workshops; Warehouse or distribution centres; Waste disposal facilities; Water recreation structures

'Service Stations' and 'food and drink premises' are both permitted with consent in the B2 Local Centre zone. The proposal meets the relevant objectives of the zone and the overall intent of the B2 Local Centre zone by contributing to the range of retail land uses which serve the needs of people who live, work, and visit the area. It also provides employment opportunities in an accessible location which public transport connections.

Definitions

service station *means a building or place used for the sale by retail of fuels and lubricants for motor vehicles, whether or not the building or place is also used for any one or more of the following—*

(a) the ancillary sale by retail of spare parts and accessories for motor vehicles,

(b) the cleaning of motor vehicles,

(c) installation of accessories,

(d) inspecting, repairing and servicing of motor vehicles (other than body building, panel beating, spray painting, or chassis restoration),

(e) the ancillary retail selling or hiring of general merchandise or services or both.

food and drink premises *means premises that are used for the preparation and retail sale of food or drink (or both) for immediate consumption on or off the premises, and includes any of the following—*

(a) a restaurant or cafe,

(b) take away food and drink premises,

(c) a pub,

(d) a small bar.

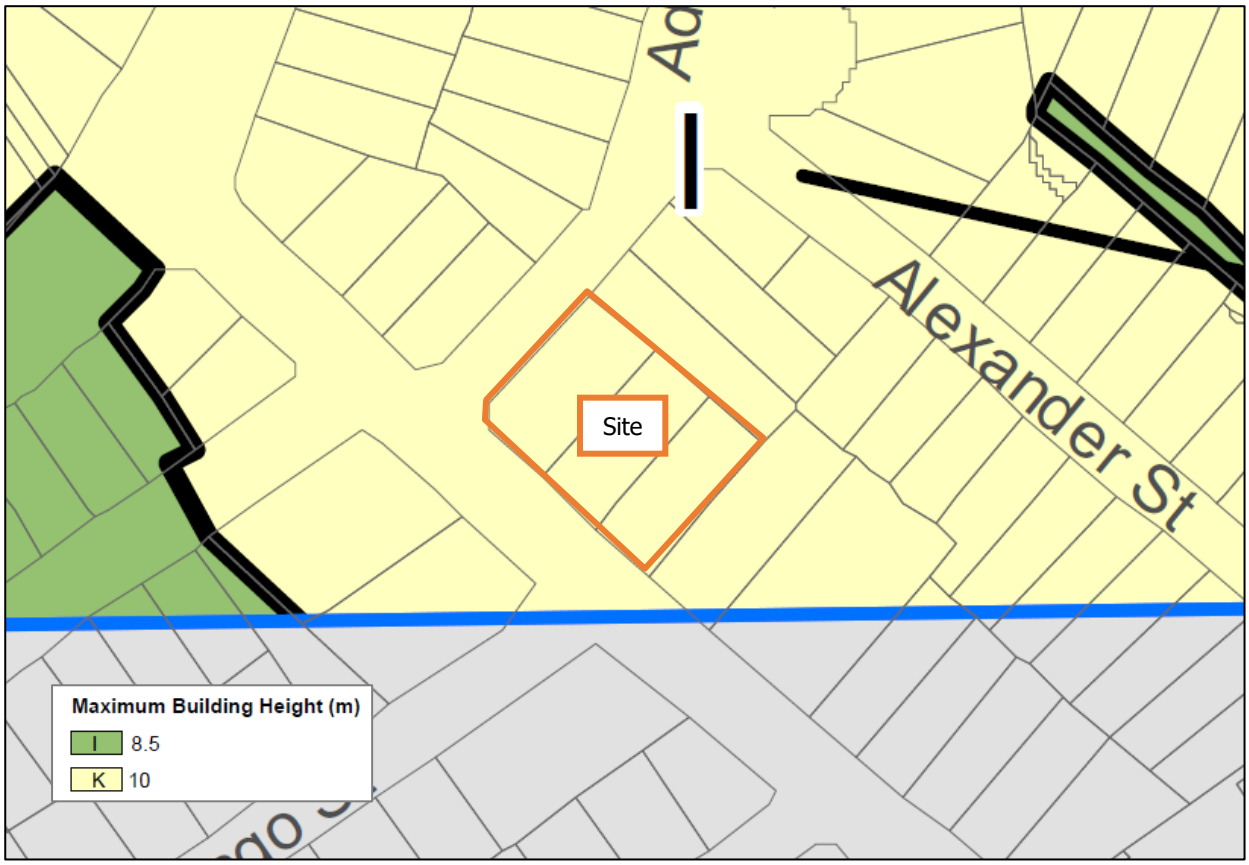
4.5.1 RELEVANT CLAUSES

The relevant clauses of the LEP are explored below.

Clause 4.3 Height of Buildings

The site is mapped with maximum height limitation of 10 meters, refer to Figure 6. The proposed building, canopy, and signage are all less than 10m in height and therefore compliant with the clause.

Figure 6 – Height of Buildings Map Extract (HOB_009C)



Clause 5.10 Heritage Conservation

The site does not contain a heritage item nor is it located within a heritage conservation area.

Clause 7.2 Earthworks

Earthworks is proposed as part of the development application in order to establish the development area on the site.

Before granting development consent for earthworks, the consent authority must consider the following matters—

(a) the likely disruption of, or any detrimental effect on, existing drainage patterns and soil stability in the locality of the development,

(b) the effect of the proposed development on the likely future use or redevelopment of the land,

(c) the quality of the fill or the soil to be excavated, or both,

(d) the effect of the development on the existing and likely amenity of adjoining properties,

(e) the source of any fill material and the destination of any excavated material,

(f) the likelihood of disturbing relics,

The proposed earthworks have been engineered to minimise detrimental impacts on existing drainage or soil stability and will facilitate the proposed development on the site. Refer to Appendix B for full details on drainage and cut and fill.

Clause 7.9 Service stations in certain zones

The proposed service station is located within a B2 Local Centre zone requiring compliance with the provisions of Clause 7.9. Under the clause the service station must afford the following:

> *(a) the gross floor area of the building (excluding parking, refuelling areas, vehicle access areas and any ancillary car wash areas) comprises no more than 30% of the site area, and*
>
> *(b) any floor area used for the ancillary retail selling of general merchandise comprises no more than 50% of the gross floor area of the building.*

With a site area of 2,529.2m^2 service station development is limited to a maximum of 758.76m^2 of floor area. The proposed 212.5m^2 of service station floor area is therefore compliant with the clause. The retail floor area of the service station has been measured at 103.56m^2 which is compliant with the 50% limitation.

4.6 LAKE MACQUARIE DEVELOPMENT CONTROL PLAN 2014

The Lake Macquarie Development Control Plan 2014 (DCP) applies to all land within the Local Government Area (LGA) of Lake Macquarie which includes the subject site.

The Lake Macquarie DCP 2014 Chapters relevant to the proposed development are:

- Part 4: Development in Business Zones
- Part 9.15 Service Stations;
- Part 9.17: Signage; and
- Part 10.6: Mount Hutton Town Centre.

The proposal generally complies with the DCP 2014 with a small number of variations are required particularly in relation to landscaping and the proposed pylon sign. These variations are considered acceptable in the circumstances taking into account the location of the site, the context of the area, and the nature of the two proposed land uses. See Section 5 and DCP assessment for justification for the proposed variations. A full assessment against the relevant components of the DCP is included in table format at Appendix C.

5 ASSESSMENT OF PLANNING ISSUES

The following is an assessment of the environmental effects of the proposed development as described in the preceding sections of this SEE. The assessment considers only those matters under Section 4.15(1) of the EP&A Act 1979 that are relevant to the proposal.

5.1 COMPLIANCE WITH PLANNING INSTRUMENTS AND CONTROLS

Unless otherwise stated, the proposed development either complies with or is consistent with all relevant planning instruments and controls set out in Section 4 of this SEE, in that:

- The proposal complies with the requirements of the POEO (UPSS) Regulations 2019;
- Proposed signage is consistent with the criteria contained within SEPP 64 – Advertising and Signage;
- A Risk Screening Assessment found that the site is non-hazardous in accordance with SEPP 33 - Hazardous and Offensive Development;
- The proposal is able to be made appropriate for the proposed development achieving compliance with SEPP 55 – Remediation of Land;
- The proposed service station and food and drink premises are permissible within the B2 zone and complies with relevant development standards and provisions of the Lake Macquarie LEP 2014; and,
- The proposal is generally consistent with the objectives and relevant controls within Lake Macquarie DCP 2014 with the exception of a number of variations related to landscaping and signage. Justification for the deviation from the DCP has been provided within Section 5 and the variations are considered acceptable in this instance. A detailed assessment of the proposed development against the relevant provisions of the DCP is provided in the table at Appendix C.

5.2 TRAFFIC, ACCESS AND PARKING

5.2.1 TRAFFIC

A Traffic Impact Assessment (TIA) has been undertaken by Varga Traffic Planning (VTP) and is attached at Appendix D. The anticipated rates of traffic likely to be generated from the proposed development are discussed in this report, having regard for the TfNSW 'Guide to Traffic Generating Development'.

Traffic generated by the proposed development will have its greatest effects during weekday peak periods when it combines with other traffic on the surrounding road network. A large portion traffic for both operations will be passing trade. As a result, the additional external traffic on Wilsons Road and Ada Street is estimated to be between 71 and 160 two-way vtph during the morning and afternoon peak periods.

The additional traffic anticipated from the proposal has been assigned to the road network where it was found that the surrounding road network is capable of accommodating the expected additional traffic from the proposal. The SIDRA analysis found that a good level of service at nearby intersections was expected with the additional traffic from the development.

5.2.2 ACCESS AND INTERNAL CIRCULATION

The proposed separated entry and exit crossovers to Wilsons Road and combined entry/exit to Ada Street will provide for appropriate turning movements of cars and service vehicles (including petrol delivery tankers), in accordance with Council

design requirements and the Australian Standard for Parking Facilities (Part 1: Off-street car parking and Part 2: Off-street commercial vehicle facilities), AS 2890.1:2004 and AS 2890.2 –2002.

Suitable queuing areas are provided from the bowsers to the driveways such that the risk of vehicles queuing back onto the road network is minimised.

The vehicle manoeuvring areas provided within the site are satisfactory and allow convenient servicing of the site with forward entry and exit from the site for the fuel tankers and all delivery/service vehicles. This has been demonstrated with the provision of swept turning paths provided within the architectural plans at Appendix A.

Variation

It is noted that the provision of vehicle crossovers to Wilsons Road is non-compliant with Council's DCP which requires access crossovers to be provided to a secondary road if available. Further, controls restrict light traffic to a single crossover. This arrangement is further non-compliant with requirements for a single crossover to be used and the limitation frontage occupation by the crossovers.

Due to site constraints and the proposed uses, it is a logical solution to provide crossovers to both Ada Street (secondary road) and Wilsons Road (primary road). The proposed access arrangements respond to the need for the fuel tanker to deliver fuel to the site in a safe manner which has minimal impact on road operations. The fuel tanker is proposed to utilise the Wilsons Road separated entry and exit crossovers minimising the interaction between heavy vehicle and light vehicles or pedestrians on the site and allows the vehicle to enter and exit the site in a forward manner with minimal manoeuvring improving site safety and avoiding the need for complex delivery management arrangements or other management controls.

The arrangement also minimises the impacts on Ada Street and the Ada Street-Wilsons Road intersection by allowing a portion of traffic to enter directly via Wilsons Road and to utilise Ada Street. Vehicle swept paths including the 19m fuel delivery tank are provided within the Architectural Plans in Appendix A.

5.2.3 PARKING

The Lake Macquarie DCP 2014 sets out the relevant on-site car parking rates for land uses within the Lake Macquarie LGA. The car parking rates for *service station* and *take away food and drink premises* are provided below.

Service Station
Where including a convenience store

1 space per 60m² GFA

Food & drink premises
Where the total area is less than 5000m² GFA

1 spaces per 25m² GFA

Calculation:

Service Station

Service station component is 212.5m² GFA

212.5 / 60 = 3.54

4 car parking spaces (rounded up)

Food and Drink Premises

Food and drink component is 137.5m^2 GFA

137.5 / 25 = 5.5

6 car parking spaces (rounded up)

Total: 4 + 6 = 10

As shown above, the total car parks required on site to service the proposal is 10 parking spaces. A total of 17 car parking spaces including one accessible car parking spaces and one air and water space are included within the proposed development exceeding the Council DCP minimum parking rate. The proposal therefore provides sufficient car parking spaces to meet onsite parking demand.

Variation

It is noted that the proposed 17 car parks exceeds the prescribed parking rate by 7. The number of car parks proposed is inline with the nature of the proposed development incorporating two land uses and will allow for cross use with other commercial land uses along Wilsons Road. The car parking proposed is avoided along the Wilsons Road frontage and sufficient landscaping provided along the Ada Street frontage to improve visual amenity outcomes.

The proposed car parking arrangement is consistent with the objectives of the DCP by providing a sufficient number of car parks to support the two proposed land uses and have been located to minimise impact on the primary road frontage on Wilsons Road.

5.3 VISUAL IMPACT

The service station and food and drink premises development has been designed to suit the locality in terms of built form and overall design noting its location within a B2 Local Centre zone whilst being surrounding by residential development.

The proposed works will make a positive visual contribution to the amenity of the area given:

- The proposal seeks to provide a modern facility using high quality finishes and generally low scale proportions, consistent with nearby development;
- The proposed built form is of an appropriate height, scale and setback suitable for Wilsons Road and the business zoning of the site;
- The proposed development includes professionally designed boundary and front setback landscaping to enhancing its appearance from surrounding properties, roads and public areas;
- Contemporary building design will contribute to the aesthetical improvement of the area;
- A conservative amount of external signage is proposed in association with the development in order to achieve orderly and co-ordinated site presentation; and
- Proposed landscaping elements will add to the visual interest of the site and enhance the local urban ecology.

It is noted that the proposed building design and site layout do not strictly comply with elements of the Lake Macquarie DCP 2014 noting the desire for two storey development along primary street frontages with building to address the corner element if the site is a corner lot.

Due to the nature of the proposed development which includes a service station/convenience store and food and drink premises, the building has been located to the south eastern boundary and consists of a single storey development. The proposed layout facilitates clear sightlines into the site from the surrounding road network allowing motorists to quickly and clearly visualise the fuel bowser locations and site access points. The establishment of a corner building would block views into the site compromising road network operation and safety and ultimately introducing unwarranted hazard to permissible land uses on the site.

The proposed single storey building is proposed due to retail floor area restrictions from the Lake Macquarie LEP 2014. The proposed service station convenience store is the larger building element of the two proposed with a floor area of 212.5m^2. Clause 7.9 restricts retail floor area to 50% of the service station building area placing a firm limit on proposed floor areas able to be achieved. The requirement for a second storey would require an unfeasible addition of a third land use to operate, potentially creating undesirable outcomes for the site.

5.4 SIGNAGE

An integrated approach has been adopted for signage within the site, comprising a mix of flush wall signs and business and product identification on the building facades and fuel canopy, as well as a 7m service station pylon sign incorporating price board .

The proposed signage will be of a high quality and finish and selected signs will be internally illuminated at an acceptable level that will not result in unreasonable glare that would affect the safety of passing vehicles or pedestrians. All signage proposed is to be illuminated in accordance with the relevant Australia Standards. While the tenant are yet un-known, the location and dimension of signage is illustrated on the Signage Plans and Elevations provided at Appendix A.

SEPP 64 Assessment

The aims of the SEPP 64 are to ensure that signage:

- *is compatible with the desired amenity and visual character of an area;*
- *provides effective communication in suitable locations; and*
- *is of high quality and finish.*

It is considered the proposed signs will be compatible with surrounding development and signage located along Wilsons Road and the general area. The proposed signs will maintain visual amenity at the site with the signs to directly relate to the operations proposed on the site.

Overall, the proposed signage scheme will meet the objectives and provisions of SEPP 64. A detailed assessment of the proposal against the provisions of SEPP 64 – Schedule 1 is presented in Table 2 at Appendix C.

Variation

The Lake Macquarie DCP 2014 places a height limitation of 6m to pylon signs in the LGA. The proposed pylon sign is proposed to be 7m resulting in a minor non-compliance of 1m.

The proposed pylon sign incorporates a number of elements including business identification both the proposed service station and food and drink premises along with the required fuel price board sign which is a legislated requirement. The proposed height exceedance will facilitate the incorporation of all three elements into a single sign enhancing the clear communication to motorists on the roadway improving overall road operation and safety.

The proposed pylon sign s an appropriate size for the type of sign and type of information conveyed whilst leading to improved outcomes for the Wilsons Road streetscape consistent with the objectives of the DCP 2014.

5.5 NOISE

Operational Noise

A Noise Assessment (NA) undertaken by Muller Acoustic Consultants measured and modelled the potential noise generation for the operation including sleep disturbance noise emissions (refer to Appendix G).

The proposal includes the following noise attenuation measures as recommended in the NA:

- Construction of an impervious barrier along the north-eastern and south-eastern of the project site. The barrier should be constructed to an RL of 2.8m above the relative ground level of the project and consist of materials with a surface density of at least 10kg/m^2, and not contain any gaps (ie lapped and capped timber, colorbond steel or equivalent);
- Construction of an impervious barrier along the north-western boundary of the project site. The barrier should be constructed to an RL of 1.0m above the relative ground level of the project and consist of materials with a surface density of at least 10kg/m^2, and not contain any gaps (ie lapped and capped timber, colorbond steel or equivalent);
- Construction of an impervious barrier around the rooftop mechanical plant of the service station building which extends 500mm above the top of the highest item of plant. The barrier should be constructed of materials with a surface density of at least 10kg/m^2, and not contain any gaps (ie lapped and capped timber, colorbond steel or equivalent);
- Deliveries are assumed to occur from 5am to 10pm only; and
- COD's are assumed to be set to the lowest volume setting.

The results of the NA demonstrate that emissions from the project would satisfy the relevant Project Noise Trigger Levels (PNTL) at all assessed receivers for all assessment periods once the above noise controls are implemented. Furthermore, sleep disturbance is not anticipated, as emissions from impact noise are predicted to remain below the EPA screening criterion for sleep disturbance and awakenings.

Based on the modelling undertaken and the findings of the NA, it is recommended Council approve the project in terms of noise impact taking into consideration the proposal includes all the noise control and management strategies provided within the NA.

Demolition and Construction Noise

Modelled noise emissions from project construction and demolition activities identify that relevant noise management levels may be exceeded. Hence, noise management measures as provided in the enclosed Noise Assessment (refer to Appendix G) are to be implemented to reduce potential impacts on surrounding receivers during construction activities.

Construction noise mitigation measures to be implemented include:

- Where reasonable and feasible, implement boundary fences/retaining walls as early as possible to maximise their attenuation benefits to surrounding receivers;
- Toolbox and induction of personnel prior to shift to discuss noise control measures that may be implemented to reduce noise emissions to the community;

- Where possible use mobile screens or construction hording to act as barriers between construction works and receivers;
- All plant should be shut down when not in use. Plant to be parked/started at farthest point from relevant assessment locations;
- Operating plant in a conservative manner (no over-revving);
- Selection of the quietest suitable machinery available for each activity;
- Avoidance of noisy plant/machinery working simultaneously where practicable;
- Minimisation of metallic impact noise;
- All plant are to utilise a broadband reverse alarm in lieu of the traditional hi frequency type reverse alarm; and
- Undertake letter box drops to notify receivers of potential works

5.6 ODOUR

It is not expected that the proposal will have any significant impact on surrounding premises from any potential odours associated with activities undertaken on the site.

Stage 2 vapour recovery (VR2) equipment will be installed at the petrol tanks which is designed to capture the displaced vapour and return it to the underground fuel storage tank or other appropriate vessel.

VR2 systems are intended to limit the emissions of fuel vapour when vehicles refuel by recovering at least 85% of the displaced vapour. In accordance with Protection of the Environment Operations (Clean Air) Regulation, the VR2 system will be tested for vapour system recovery performance before commissioning, and whenever components required to ensure the integrity of the system are removed and replaced, for example, during maintenance.

During construction and earthworks, the following measures may be implemented to minimise odours:

- Covering of stockpiles;
- Use of fine mist sprays and /or odour mitigating agent on impacted areas and materials; and
- Adequate maintenance of equipment and machinery to minimise exhaust emissions.

5.7 LIGHTING

Appropriate lighting will be installed on the proposed premises, including lighting for the car parking and drive-thru areas. External lighting will contribute to the overall safety of the site, in conjunction with other security measures such as CCTV cameras.

It is considered that the proposed lighting will result in minimal impact on adjoining properties and the surrounding streetscape. All external lighting will comply with AS/NZ 1158.3.1:2005 and AS 4282.1997 Control of the obtrusive effects of outdoor lighting.

5.8 SAFETY AND SECURITY

The development has been designed to and shall be managed to minimise and discourage criminal activity and ensure the safety of customers, staff, and the local community. The proposal has been designed to be consistent with Crime Prevention through Environmental Design (CPTED) principles.

A Crime Risk Assessment has been undertaken and is included at Appendix I. The purpose of the Crime Risk Assessment is to identify and assess crime risk associated with the proposed development which includes elements which will trade 24 hours a day, and to minimise opportunities for crime through design. The Crime Risk Assessment has regard for the 4 key strategies (surveillance, access control, territorial reinforcement and activity and space management) of Crime Prevention and Public Safety.

5.9 MULTI-LEVEL RISK ASSESSMENT

The Risk Screening Analysis carried out by Hazkem Pty Ltd established that the distance from the remote fill and dispensing points to the site boundaries is greater than the minimum setback distance required and therefore, the proposal does not require a Preliminary Hazard Analysis (PHA) to be conducted in accordance with SEPP 33.

The site and proposed design of the development were found to not impose a significant level of risk to the community and the proposal was found as not potentially hazardous. Full details are included in the SEPP 33 Risk Screening documentation included at Appendix F.

5.10 LANDSCAPING

Landscaping is proposed to complement the built form and hard stand areas of the development including shade trees, screen planting and shrubs, low hardy plants, accent plants, groundcovers and turf. The proposed landscaping has been prepared in accordance with the DCP as well as having regard for the practicality of ongoing management.

Tree and shrub species, sizing & locations have been chosen to ensure that passive surveillance is maintained at building, carpark, driveway and drive-thru entry with smaller groundcovers and shrubs adjacent to paths and buildings in accordance with CPTED principles.

The landscape design meets Council's planning objectives in regard to streetscape, presentation, and public amenity. Predominantly low water use species have been grouped in regard to watering requirements and to reduce reliance on use of potable water.

In summary, the new landscaping proposed will integrate the built form and hardstand areas associated with the proposal as well as provide a positive contribution to the overall landscape character of the area. A detailed Landscape Plan prepared by JK's Garden Creations is included at Appendix H.

Of note, is the introduction of a 1.5m landscape strip along the entire northern boundary that interfaces with the neighbouring residential. This 1.5m landscape strip coupled with the stepped retaining wall will enable significant planting to provide a reprieve to the residential interface.

Variations

Due to the nature of the proposed development a number of non-compliances relating to landscaping have been required. These non-compliances include the following:

+ Control 2.8 Minimum Landscaped Area
    - *All development must provide a minimum landscaped area of 20% of the total site area.*
+ Control 7.3 Landscape and tree planting in front setback areas
    - *Development must include installation and maintenance of at least one advanced clear-trunked broad-canopy tree for every 20m^2 of front setback area*
+ Control 7.4 Landscape and trees in car parks

- *Development must include supply, installation and maintenance of at least one advanced clear trunked broad-canopy tree for every six at-grade car parking spaces.*
- *Each landscape planting area must include at least one medium canopy tree, with suitable ground covers or low shrubs below.*

+ Part 9.15 Controls 2 and 6
    - *A continuous landscape strip must be provided along the frontage of the site and any building or structure must be located at least 7 metres behind the landscape strip.*
    - *Vegetated buffers along boundaries must consist of species that will form a visual screen 4 meters high within three years.*

The reduced landscaped area within the Wilsons Road setback area of a result of the provision of a drive through lane with waiting bays, the provision of separated entry and exit crossovers to Wilsons Road to facilitate safe fuel tanker movements on site with minimal disruption to Wilsons Road, and the overall depth of the building which while complying with its own controls contributes to the loss of landscaped area on the frontage. The 1.5m landscape strip along the northern boundary significantly contributes to softening the impact of the development to the neighbouring residential dwelling.

The proposal proposes planting street trees to Council's desired specification to provide shading to the existing pedestrian walkway, provide a level of screening of the proposed development, and improving the level of green interface along Wilsons Road inline with Council's vision of the future character.

The proposed shrubs and groundcovers within the boundary landscaped area along Wilsons Road does not meet the required 4m mature height. The proposed landscaping is limited in height to facilitate clear sightlines between the shrubs and broad canopy trees proposed within the road reserve. This structure is designed to maintain road safety along Wilsons Road which must preserve sightlines into and out of the site and facilitate the clear and effective communication between site signage and the roadway. While the structure does not strictly comply with the requirement of the provision of 1 broad canopy tree every six metres of frontage, the proposed structure does ensure clear sightlines into and out of the site ensuring road safety is maintained whilst still achieving an appropriate level of greening along Wilsons Road.

Further, the proposed structure enables casual and passive surveillance throughout the site and public domain compliant with CPTED guidelines. This is an essential element considering the nature of the proposed land uses and the late trading proposed.

While not strictly compliant, the proposed street improvements are considered to meet the objectives the Lake Macquarie DCP 2014 and Councils vision along Wilsons Road as described within both the Mount Hutton Town Centre Area Plan (DCP 2014) and the Mount Hutton Streetscape Master Plan (2017).

5.11 WATER MANAGEMENT

The proposed development site has been designed to collect water runoff and direct to the existing outfall.

Specifically, the proposed stormwater management arrangement includes:

+ Runoff from the new roof areas of the convenience store are to be captured and directed to the proposed 2.5kL above ground rainwater tank. The collected rainwater will be reused internally within toilets. Any overflow from the rainwater tank will be directed to the proposed stormwater drainage network;
+ Under-canopy runoff to be collected by a separate underground pipework and directed to a SPEL Puriceptor followed by entrance to the main site stormwater system;

- All hardstand areas will be captured in a series of surface inlet pits with pit inserts before being directed to the OSD tank;
- Stormwater is to be directed through a Stormfilter prior to discharge; and
- The proposed 33.73m^3 OSD tank will reduce discharge from the site to the predeveloped flows (calculations provided on the Stormwater Management Plan at Appendix B).

All stormwater discharging from the operational apron/forecourt area and fill point area will be treated through the proposed underground treatment devices. This is a compulsory environmental requirement under the Office of Water Guideline for discharges from premises with refuelling points in Non-Metropolitan NSW and the Protection of the Environment Operations Act 1997 (POEO Act). The devices collects polluted stormwater from the area under the canopy/fill areas and adequately separates pollutants from water before discharging into the stormwater system.

Full details of proposed Stormwater Management arrangements including MUSIC modelling results are shown within the Civil Drawings prepared by Eclipse attached at Appendix B.

5.12 WASTE MANAGEMENT

Waste from each of the site operator's will be stored in the shared waste area provided on site. All general waste and recycling storage will be kept within these areas. Waste areas will be screened from public view and are easily accessible to service vehicles. Waste collection times will be discussed with the contractor and will depend on store volumes once operational.

Key waste management strategies included in the proposal are detailed below:

- Litter messages, logo and litter branding on and around the site;
- Litter branding for all bins; and,
- Staff training on implementation of the operations litter program.

A Waste Management Plan (WMP) including construction and ongoing waste generation rates is attached at Appendix J.

5.13 SEDIMENT AND EROSION CONTROL

All sediment control devices will be constructed, placed, and maintained in accordance with respective Council specifications and Landcom "soil and construction" manual and as shown on the proposed Erosion and Sediment Control Plans at Appendix B.

Temporary contractors' vehicular access to the site will be restricted to a single point off Ada Street with a vehicle shaker grid and stabilised site access to reduce the likelihood of sediment being trafficked off site. Sediment fencing material will be erected around the low site boundaries and existing and new drains will have drop inlet grate wrapped in appropriate geotextile fabric and placed into position within concrete surrounds.

5.14 SOCIAL AND ECONOMIC IMPACTS

The proposed establishment of a service station and food and drink premises on the site is anticipated to have an ongoing positive social and economic impact on the local Mount Hutton area as well as the broader community. The proposed development aims to provide convenient refuelling for motorists, along with convenient food and drink services to both residents, workers, and visitors. This will provide a number of employment opportunities for the community as well as boost the local economy.

5.14.1 SOCIAL IMPACT STATEMENT

Local Character

Mount Hutton is generally a residential area consisting of a mix of single and two storey homes dating from the 50's through to present designs. New development include small lot and multi-unit housing. The area is supported by three commercial/shopping areas including the Lake Macquarie Fair shopping centre, a strip of shops on Dunkley Road, and a strip of shops on Wilsons Road which the subject site will form part.

Heritage

The traditional inhabitants of the Lake Macquarie area are the Awabakal people. Mount Hutton is not identified in Council's sensitive Aboriginal Landscape map however undiscovered Aboriginal sites may be found within undisturbed vegetation along local watercourses including Scrubby Creek, South Creek and Fossil Win Creek along with the broader catchment lines.

Demographics

Due to its residential nature, Mount Hutton is typified by a mix of families and retirees with 38.4% were couple families with children, 43.1% were couple families without children and 17.9% were one parent families. The area holds a median age of 46 years. Children aged 0 - 14 years made up 15.8% of the population and people aged 65 years and over made up 26.6% of the population.

Of the employed people in, 6.2% worked in Hospitals (except Psychiatric Hospitals). Other major industries of employment included Supermarket and Grocery Stores 4.7%, Other Social Assistance Services 3.8%, Aged Care Residential Services 2.6% and Takeaway Food Services 2.3%.

Impacts

The proposed development aims to provide two commercial type land uses within a business/commercial zoned strip focused around the existing Wilsons Road commercial strip.

The identified positive impacts are summarised below:

- The proposal will generate direct employment opportunities with flow on employment multipliers benefitting the local community;
- The development will be compliant with relevant disability standards, and will meet the needs of people with physical disabilities, sensory disabilities, and intellectual disabilities;
- The proposal will provide needed services to the area meeting the daily needs of the surrounding residents, workers, and visitors to Mount Hutton and Lake Macquarie;
- Contribution to the establishment of the Wilsons Road component of the larger Mount Hutton Town Centre;
- The proposal will result in economic benefits associated with the construction works;
- Specific safety and security measures will be incorporated into the operational procedures of the development to ensure a safe and secure environment for patrons and staff; and
- Appropriate mitigation measures and environmental controls to ensure environmental outcomes are achieved.

The potential negative impacts are summarised below:

- Cumulative traffic impacts along Wilsons Road as the Mount Hutton Town Centre is developed with commercial operations;
- Provision of late trading may impact the nature of crime experienced in the area;
- Cumulative noise impacts experienced by residential properties which adjoin the emerging strip as it develops; and
- Change in spending habits focusing towards convenience items due to proximity and improved access provided by the proposed development.

Social Impact Statement Conclusion

The proposed development aims to provide two commercial land uses, being a service station and food and drink premises within an area Council desires to see greater business and commercial investment and development. Impacts on the community are expected as the area is developed however the ultimate goal is to improve local access to goods and services while also providing local employment opportunities as Mount Hutton develops and grows as a larger residential hub in the broader Lake Macquarie LGA.

The provision of the proposed food and drink premises with the service station aims to improve the long term sustainability of the development providing for improved inter-generational and community outcomes. The projected positive social impacts are considered to outweigh the potential negative impacts noting the potential for cumulative impacts which are to be managed through careful planning by Council as the area develops.

5.15 PUBLIC INTEREST

The proposal is considered to be in the public interest as it will deliver a number of public, social and economic benefits with minimal adverse impacts (as detailed within this report). The style of development is appropriate for the location within a business zone under the LEP 2014. It will provide convenient and accessible services to meet the day to day needs of workers, travellers on the surrounding road network, as well as residents in the surrounding suburbs.

5.16 BUILDING ACCESS

Access to the buildings will be compliant with the relevant legislation and criteria including The Building Code of Australia (BCA) and the Disability Discrimination Act 1992 and AS1428 – Design for Access and Mobility to ensure that adequate pedestrian and disabled access is provided for the development. As illustrated on the proposed plans, access for the disabled is made available throughout the site, carpark, building entrance and within the building.

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6 CONCLUSION

The proposed service station and food and drink premises at 10-14 Wilsons Road, Mount Hutton will provide a well-designed, modern facility compliant with relevant environmental standards and guidelines. The proposed development aims to provide convenient refuelling, along with convenience food and drink services to workers in the area and motorists travelling along the surrounding road network.

The proposal is generally compliant with relevant legislative requirements and Environmental Planning Instruments. The proposal is permissible and consistent with the objectives for B2 Local Centre zone under the LEP 2014. The development is compliant with the relevant LEP clauses, presenting no variations to any development standard.

While the proposal is generally compliant with the requirements of DCP 2014 a small number of variations are required particularly in relation to landscaping and the proposed pylon sign. The proposed variations have been discussed in the body of this SEE and are considered reasonable in the circumstances given the nature of the development and surrounds, the strategic direction for the local centre and overall DCP objectives satisfaction.

The proposed development incorporates high-quality building presentation and signage with an integrated overall approach to site development. The design of the development incorporates appropriate stormwater and flood management, respects the natural environment, and minimises potential amenity impacts on neighbouring properties.

This SEE has addressed the potential impacts arising from the proposal on surrounding properties including traffic, access and parking, noise, odour, visual amenity and waste and water management. Where necessary, mitigation measures are proposed to minimise these potential impacts and reduce potential risk associated with the development. Furthermore, it is in the interest of the future operators to employ strict management procedures for each premises to ensure that the development is a safe, efficient, and pleasant environment in which to work and visit.

Given the merit of the design and the absence of any significant adverse environmental impacts or planning issues, the DA is considered to be in the public's interest and worthy of Council's support.

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Appendix A – Architectural Plans

Brown Commercial Build

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Appendix B – Civil Engineering Plans

Eclipse Consulting Engineers

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Appendix C – Compliance Tables

KDC PTY LTD

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Appendix D – Traffic Impact Assessment

Varga Traffic Planning

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Appendix E – Stage 1 Site Contamination Investigation

Sullivan Environmental Sciences

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Appendix F – Risk Screening

Hazkem

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Appendix G – Noise Impact Assessment

Muller Acoustic Consulting

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Appendix H – Landscape Plan

JK's Garden Creations

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Appendix I – Crime Risk Assessment

KDC Pty Ltd

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Appendix J – Waste Management Plan

KDC Pty Ltd

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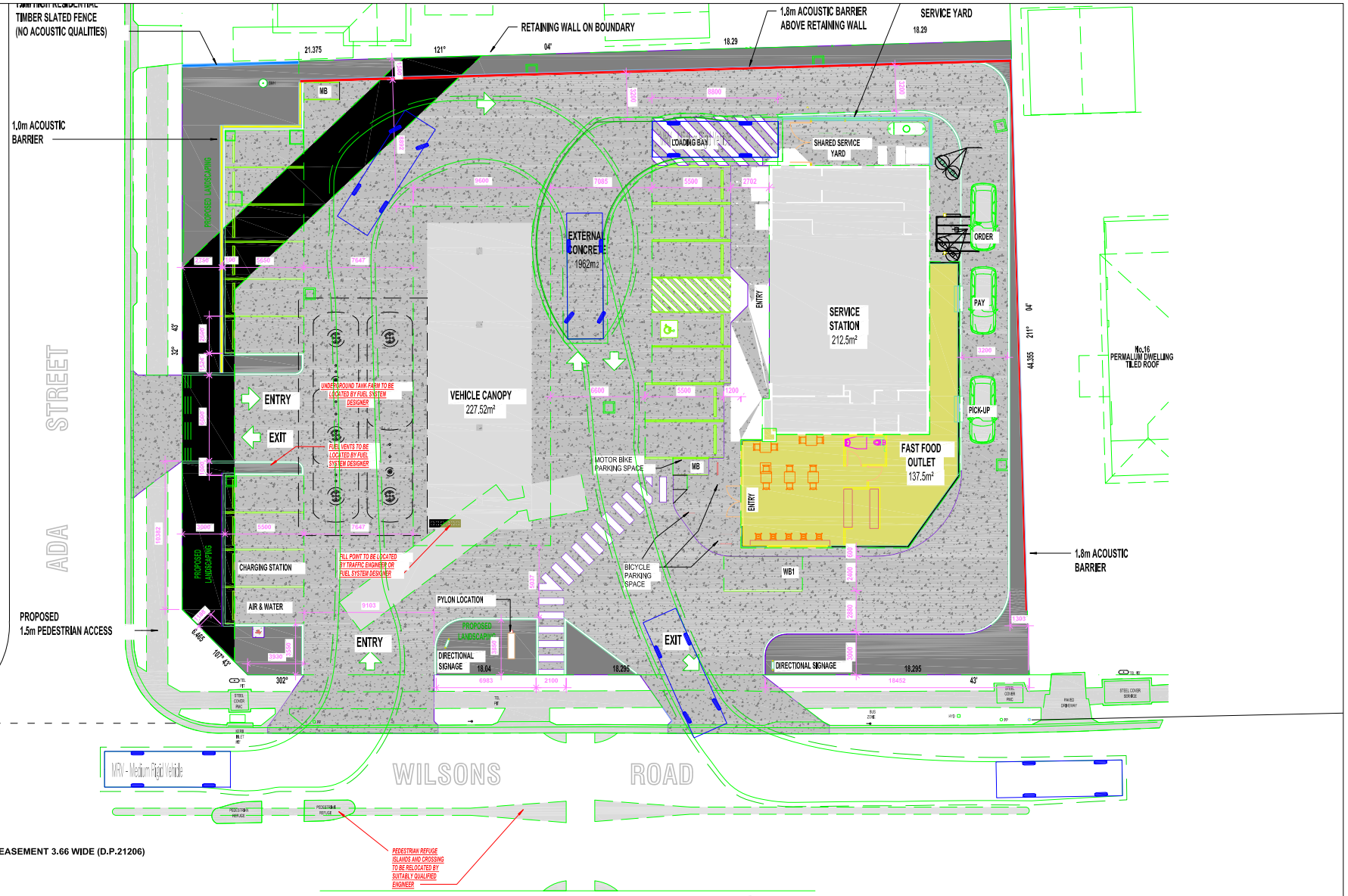

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PROJECT
SERVICE STATION DEVELOPMENT

N

DRAWING TITLE
8.8M MRV TRUCK TURNING PATH
Entering / Exiting Loading Bay Area

ADDRESS
10-14 Wilsons Road, Mount Hutton

1:400 @ A4

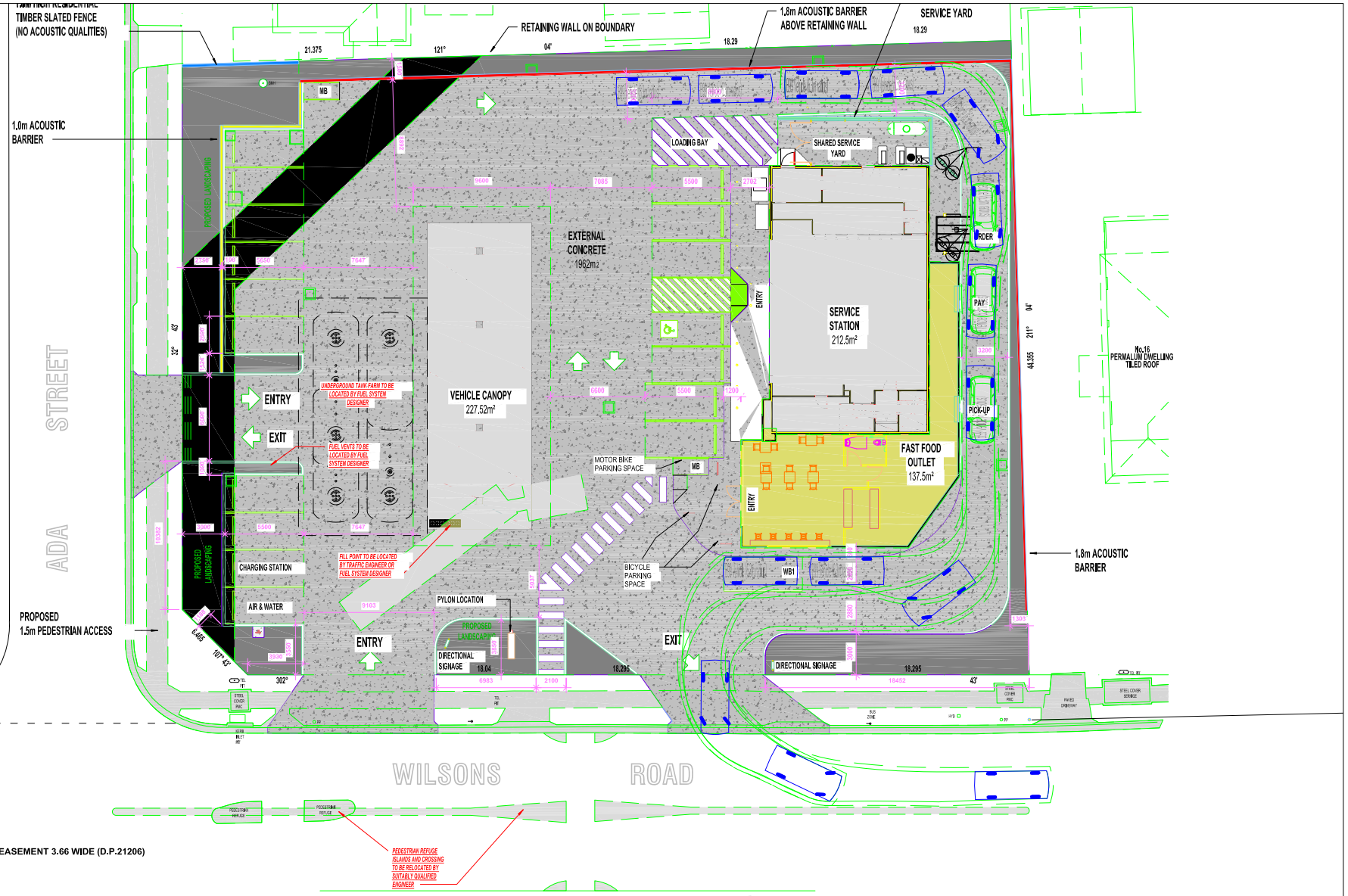
PROJECT NO.
20394

DATE DRAWN
2022-3-3

REVIEWED
CHRIS PALMER

PREPARED
DONALD LEE

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants



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PO Box 1868
Neutral Bay, NSW 2089
www.vargatraffic.com.au
Sydney, Australia

PROJECT
SERVICE STATION DEVELOPMENT

N

DRAWING TITLE
B99 VEHICLE TURNING PATHS
Entering / Exiting Fast Food Drive-Thru Area

ADDRESS
10-14 Wilsons Road, Mount Hutton

1:400 @ A4

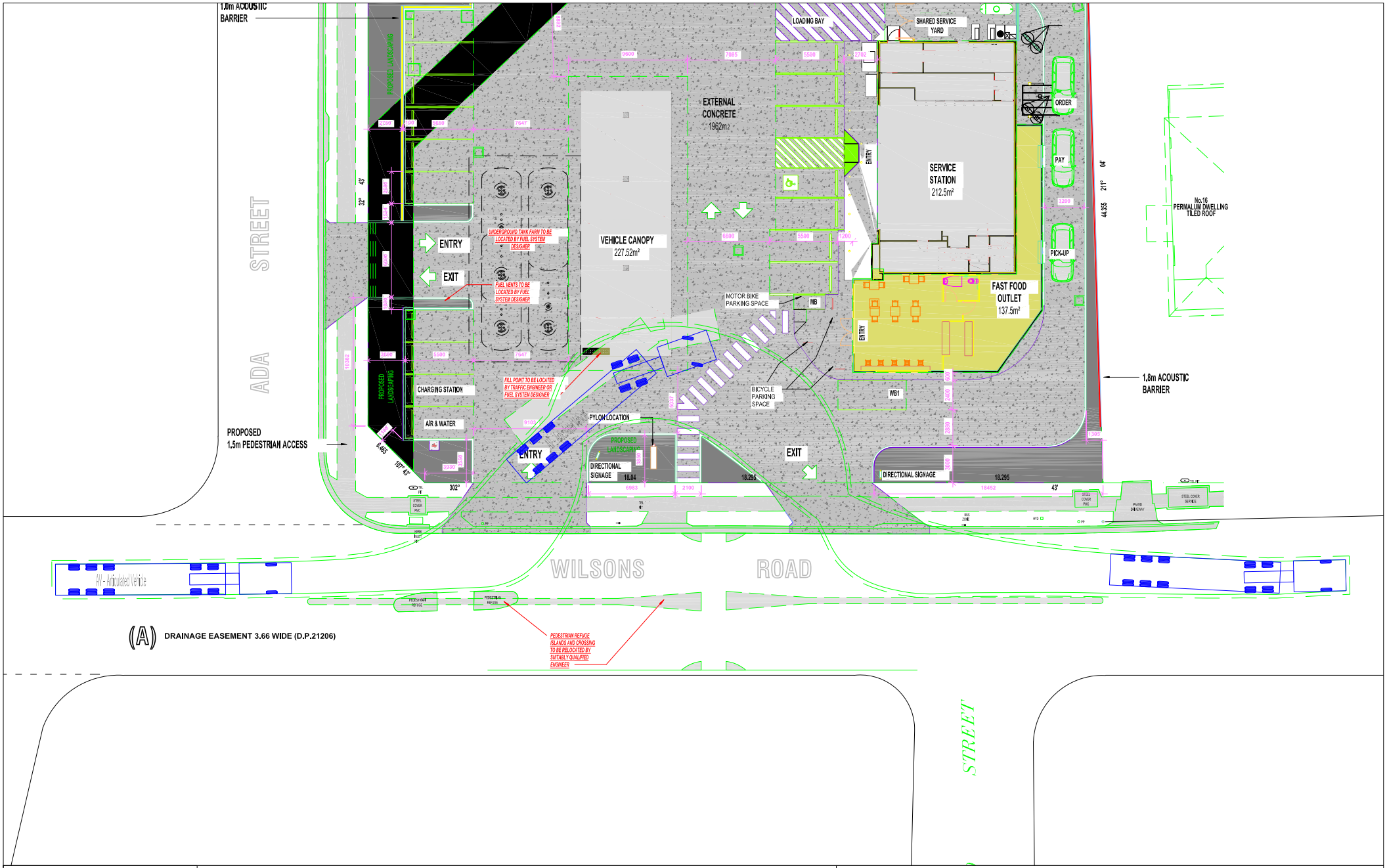
PROJECT NO.
20394

DATE DRAWN
2022-3-3

REVIEWED
CHRIS PALMER

PREPARED
DONALD LEE

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants



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PROJECT
SERVICE STATION DEVELOPMENT

N

DRAWING TITLE/DRAWING TITLE
19M LONG SEMI-TRAILER TURNING PATH
Entering / Exiting In-ground fill point area

ADDRESS
10-14 Wilsons Road, Mount Hutton

1:400 @ A4

PROJECT NO.
20394

DATE DRAWN
2022-3-3

REVIEWED
CHRIS PALMER

PREPARED
DONALD LEE

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants

ACN 071 762 537 ABN 88 071 762 537

4 March 2022
Ref 20394

SLR Consulting
Suite 2B, 125 Bull Street
NEWCASTLE WEST NSW 2302

Attn: Ben Young
byoung@slrconsulting.com

Dear Ben,

DA/1593/2020
PROPOSED SERVICE STATION AND FOOD & DRINK PREMISES
10-14 WILSONS ROAD, MOUNT HUTTON
LAND & ENVIRONMENT COURT NSW CASE NO.2021/252568
SUPPLEMENTARY TRAFFIC, PARKING, SERVICING & ACCESS MATTERS

I refer to the abovementioned Land & Environment Court Proceedings pertaining to the refusal of a new service station and food & drink premises to be located at 10-14 Wilsons Road, Mount Hutton.

I understand that the proposal has undergone a number of design modifications in order to address discussions arising during the s.34 conciliation conference. Primarily, these modifications relate to the provision of a 1.5m landscape strip along the common boundary with No.1 Ada Street.

As requested, I have therefore reviewed the revised architectural plans and can confirm that the proposed modifications to the design do not affect my conclusions detailed in the original Traffic & Parking Assessment report that accompanied the DA, nor any subsequent supplementary material prepared by myself.

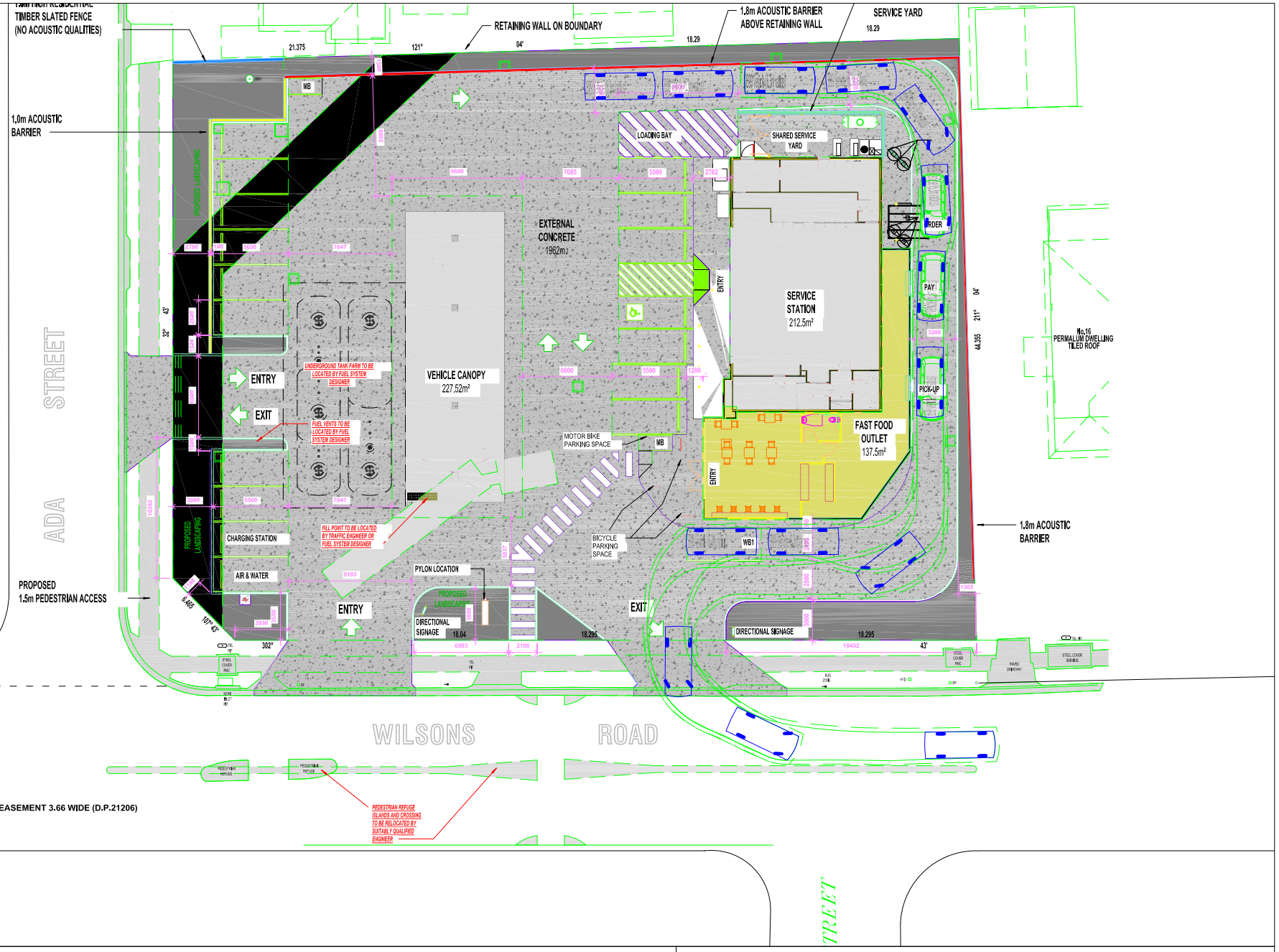
Furthermore, I can confirm that the proposed modified design complies with the relevant aspects of *AS2890.1, AS2890.2, AS2890.3* & *AS2890.6.* Importantly, the design of the proposed vehicular access driveways remains unchanged.

Please see attached a series of updated swept turn path diagrams using the revised site plan layout, confirming that all vehicles are again able to enter and exit the site in a forward direction at all times.

Please do not hesitate to contact me on telephone 9904 3224 should you have any enquiries.

Yours sincerely

Chris Palmer
Executive Engineer B.Eng (Civil)
Varga Traffic Planning Pty Ltd



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PROJECT
SERVICE STATION DEVELOPMENT

N

DRAWING TITLE
B99 VEHICLE TURNING PATHS
Entering / Exiting Fast Food Drive-Thru Area

ADDRESS
10-14 Wilsons Road, Mount Hutton

1:400 @ A4

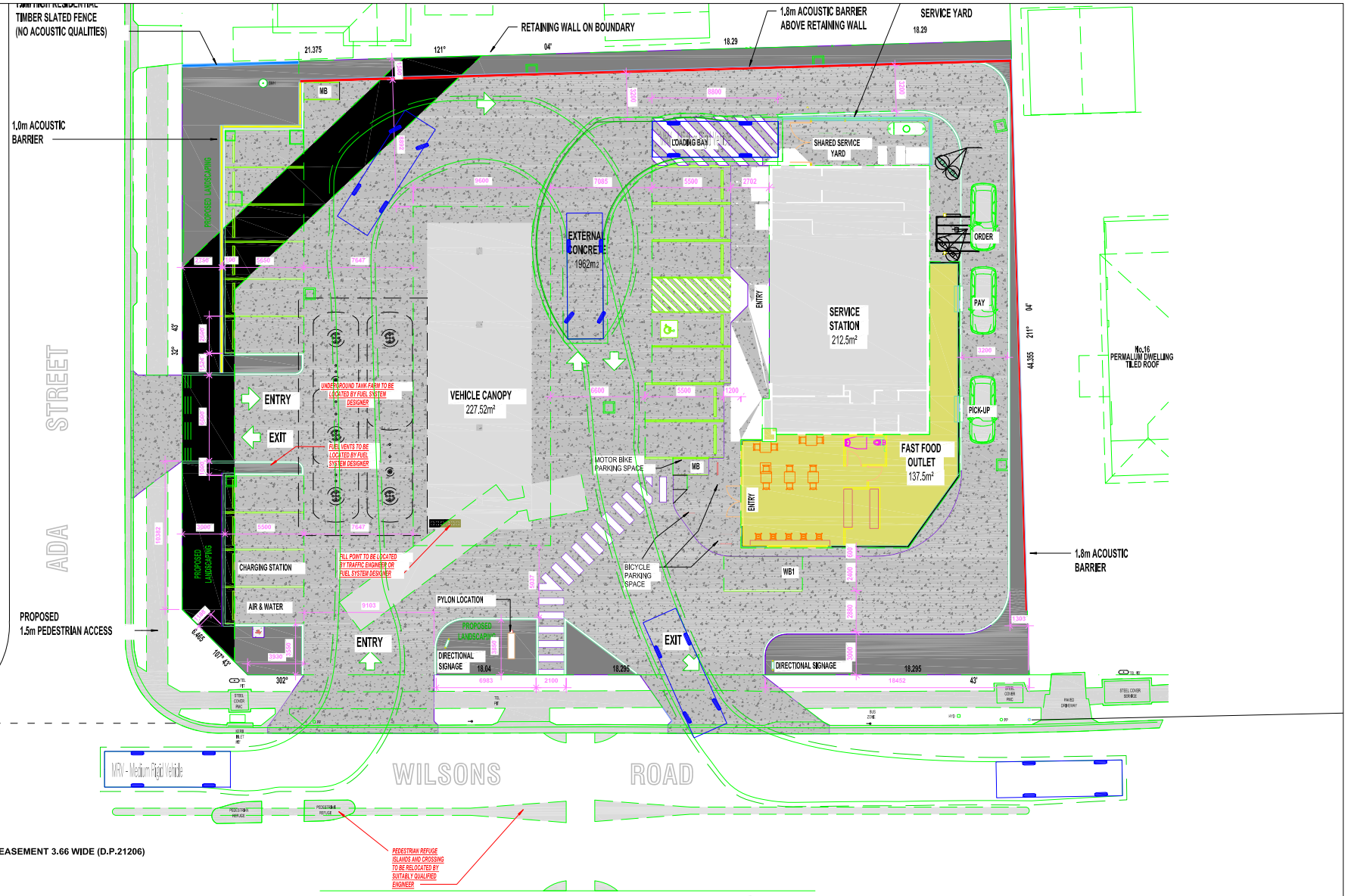
PROJECT NO.
20394

DATE DRAWN
2022-3-3

REVIEWED
CHRIS PALMER

PREPARED
DONALD LEE

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants



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PROJECT
SERVICE STATION DEVELOPMENT

N

DRAWING TITLE
8.8M MRV TRUCK TURNING PATH
Entering / Exiting Loading Bay Area

ADDRESS
10-14 Wilsons Road, Mount Hutton

1:400 @ A4

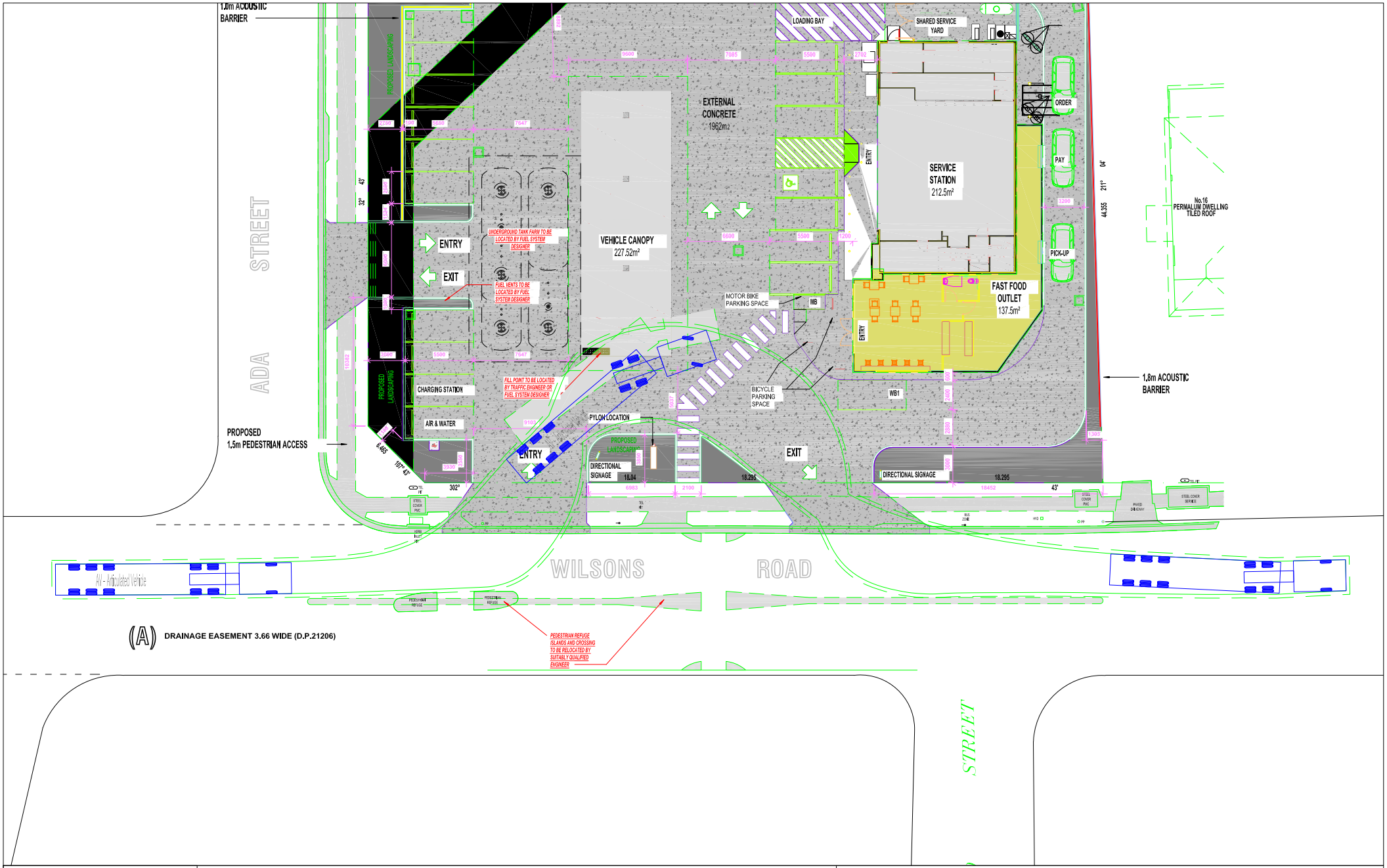
PROJECT NO.
20394

DATE DRAWN
2022-3-3

REVIEWED
CHRIS PALMER

PREPARED
DONALD LEE

VARGA TRAFFIC PLANNING Pty Ltd
Transport, Traffic and Parking Consultants



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PROJECT
SERVICE STATION DEVELOPMENT

N

DRAWING TITLE/DRAWING TITLE
19M LONG SEMI-TRAILER TURNING PATH
Entering / Exiting In-ground fill point area

ADDRESS
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1:400 @ A4

PROJECT NO.
20394

DATE DRAWN
2022-3-3

REVIEWED
CHRIS PALMER

PREPARED
DONALD LEE

Noise Assessment

Proposed Service Station with Take Away Food Premises
10-14 Wilsons Road
Mount Hutton, NSW

Prepared for: SLR Consulting Australia Pty Ltd
March 2022
MAC190967-02RP1V2

MAC
Muller Acoustic Consulting

Document Information

Noise Assessment

Proposed Service Station with Take Away Food Premises

10-14 Wilsons Road, Mount Hutton, NSW

Prepared for: SLR Consulting Australia Pty Ltd

Suite 2B, 125 Bull Street

Newcastle West NSW 2302

Prepared by: Muller Acoustic Consulting Pty Ltd

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DOCUMENT ID	STATUS	DATE	PREPARED	SIGNED	REVIEWED	SIGNED
MAC190967-02RP1V2	Final	2 March 2022 2022	Rod Linnett		Oliver Muller	

CONTENTS

1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by SLR Consulting Australia Pty Ltd (SLR) to prepare a Noise Assessment (NA) to quantify noise emissions from the Proposed Service Station with Take Away Food Premises (the 'project') to be established at 10-14 Wilsons Road, Mount Hutton, NSW.

The NA has quantified potential operational, maximum noise (sleep disturbance) and construction noise emissions from the project and recommends reasonable and feasible noise controls where required.

The assessment has been undertaken in accordance with the following documents:

- NSW Department of Environment and Climate Change (DECCW), Interim Construction Noise Guideline (ICNG), 2009;
- NSW Environment Protection Authority (EPA), Noise Policy for Industry (NPI), 2017;
- Australian Standard AS 1055:2018 - Acoustics - Description and measurement of environmental noise - General Procedures; and
- International Standard ISO 9613:1993 - Acoustics - Attenuation of sound during propagation outdoors.
- Standards Australia AS/NZS 2107:2016 (AS2107) – Acoustics - Recommended Design Sound Levels and Reverberation Times for Building Interiors ;

A glossary of terms, definitions and abbreviations used in this report is provided in **Appendix A**.

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2 Project Description

2.1 Background

The project is located at 10-14 Wilsons Road, Mount Hutton, NSW. The surrounding locality comprises primarily of residential and commercial land uses. The project site is bounded by residential receivers to the north and east with additional receivers located to the west across Ada Street. The project site is bound to the south by Wilsons Road, with commercial, passive recreation and residential receivers located across the roadway.

The project proposes the establishment of a service station and new take away food premises. The project will provide three (3) double sided fuel bowsers with an overhead fuel canopy and a single drive-thru lane associated with the take away food premises. The project will provide a total of 16 light vehicle parking spaces, two motorcycle spaces and a tyre inflation bay.

Approval is being sought for the project to operate 24 hours per day, seven days per week with limited times for some activities as discussed in this report. **Appendix B** provides the site layout of the project.

2.2 Receiver Review

A review of receivers surrounding the project has been completed and are summarised in **Table 1.** **Figure 1** provides a locality plan showing the position of these receivers in relation to the project. Receiver heights were set to represent each floor of the surrounding residential buildings.

Table 1 Receiver Locations				
Receiver	MGA 56 Coordinates		Receiver Height	Receiver Type
	Easting	Northing		
R1	375609	6349851	1.5m	Residential
R2	375632	6349870	1.5m	Residential
R3	375663	6349883	1.5m	Residential
R4	375683	6349880	1.5m	Residential
R5	375701	6349903	1.5m	Residential
R6	375713	6349914	1.5m	Residential
R7	375749	6349882	1.5m	Residential
R8	375736	6349876	1.5m	Residential
R9	375754	6349899	1.5m	Residential
R10	375772	6349880	1.5m	Residential
R11	375782	6349867	1.5/4.0m	Residential
R12	375792	6349853	1.5m	Residential
R13	375800	6349847	1.5m	Residential
R14	375809	6349830	1.5m	Residential
R15	375780	6349786	1.5m	Residential
R16	375748	6349771	1.5m	Residential
R17	375676	6349766	1.5m	Residential
R18	375659	6349783	1.5m	Residential
MED1	375759	6349810	1.5m	Medical Suite
MED2	375752	6349837	1.5m	Medical Suite
C1	375688	6349811	1.5m	Commercial
C2	375676	6349822	1.5m	Commercial
C3	375666	6349834	1.5m	Commercial
C4	375657	6349844	1.5m	Commercial
PR1	375715	6349794	1.5m	Passive Recreation

2.3 Proposed Activities

There are several key activities associated with the project that have the potential to generate acoustic impacts on nearby receivers. **Table 2** provides a summary of project noise sources and the assessment period in which they are seeking approval to occur.

Table 2 Noise Generating Activities		
Activity/Source	Period[1]	Operational
Customer light vehicles/ tyre inflation point	Day	✓
	Evening	✓
	Evening Shoulder	✓
	Night	✓
	Morning Shoulder	✓
Mechanical Plant	Day	✓
	Evening	✓
	Evening Shoulder	✓
	Night	✓
	Morning Shoulder	✓
Drive-Thru Operations including COD Operation	Day	✓
	Evening	✓
	Evening Shoulder	✓
	Night	X
	Morning Shoulder	✓
Light Vehicle Consumable Goods Deliveries	Day	✓
	Evening	✓
	Evening Shoulder	✓
	Night	✓
	Morning Shoulder	✓
Heavy Vehicle Consumable Goods Deliveries	Day	✓
	Evening	X
	Evening Shoulder	X
	Night	X
	Morning Shoulder	X
Fuel Deliveries	Day	✓
	Evening	✓
	Evening Shoulder	X
	Night	X
	Morning Shoulder	X
Waste Collection	Day	✓
	Evening	X
	Evening Shoulder	X
	Night	X
	Morning Shoulder	X

Note 1: Morning Shoulder – the period from 5am to 7am Monday to Saturday or 5am to 8am on Sundays, Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Evening Shoulder 10pm to 12am, Night - the remaining periods..

FIGURE 1

LOCALITY PLAN

REF: MAC190967

0 50m

KEY

- R1 — RECEIVER LOCATION
- L1 — LOGGER LOCATION
- SITE LOCATION

MAC
Muller Acoustic Consulting

*Imagery Source : nearmaps

3 Noise Policy and Guidelines

3.1 Noise Policy for Industry

The EPA released the Noise Policy for Industry (NPI) in October 2017 which provides a process for establishing noise criteria for consents and licenses enabling the EPA to regulate noise emissions from scheduled premises under the Protection of the Environment Operations Act 1997.

The objectives of the NPI are to:

- provide noise criteria that is used to assess the change in both short term and long-term noise levels;
- provide a clear and consistent framework for assessing environmental noise impacts from industrial premises and industrial development proposals;
- promote the use of best-practice noise mitigation measures that are feasible and reasonable where potential impacts have been identified; and
- support a process to guide the determination of achievable noise limits for planning approvals and/or licences, considering the matters that must be considered under the relevant legislation (such as the economic and social benefits and impacts of industrial development).

The policy sets out a process for industrial noise management involving the following key steps:

1. Determine the Project Noise Trigger Levels (PNTLs) (ie criteria) for a development. These are the levels (criteria), above which noise management measures are required to be considered. They are derived by considering two factors: shorter-term intrusiveness due to changes in the noise environment; and maintaining the noise amenity of an area.
2. Predict or measure the noise levels produced by the development with regard to the presence of annoying noise characteristics and meteorological effects such as temperature inversions and wind.
3. Compare the predicted or measured noise level with the PNTL, assessing impacts and the need for noise mitigation and management measures.
4. Consider residual noise impacts - that is, where noise levels exceed the PNTLs after the application of feasible and reasonable noise mitigation measures. This may involve balancing economic, social and environmental costs and benefits from the proposed development against the noise impacts, including consultation with the affected community where impacts are expected to be significant.

5. Set statutory compliance levels that reflect the best achievable and agreed noise limits for the development.

6. Monitor and report environmental noise levels from the development.

3.1.1 Project Noise Trigger Levels (PNTL)

The policy sets out the procedure to determine the PNTLs relevant to an industrial development. The PNTL is the lower (ie, the more stringent) of the **Project Intrusiveness Noise Level** (PINL) and **Project Amenity Noise Level** (PANL) determined in accordance with Section 2.3 and Section 2.4 of the NPI.

3.1.2 Rating Background Level (RBL)

The Rating Background Level (RBL) is a determined parameter from noise monitoring and is used for assessment purposes. As per the NPI, the RBL is an overall single figure background level representing each assessment period (day, evening and night) over the noise monitoring period. The adopted RBLs relevant to the project are contained in **Section 5.**

3.1.3 Project Intrusiveness Noise Level (PINL)

The PINL ($LA_{eq(15min)}$) is the RBL + 5dB and seeks to limit the degree of change a new noise source introduces to an existing environment. Hence, when assessing intrusiveness, background noise levels need to be measured.

Background noise levels need to be determined before intrusive noise can be assessed. The NPI states that background noise levels to be measured are those that are present at the time of the noise assessment and without the subject development operating. For the assessment of modifications to existing premises, the noise from the existing premises should be excluded from background noise measurements. It is note that the exception is where the premises has been operating for a significant period of time and is considered a normal part of the acoustic environment; it may be included in the background noise assessment under the following circumstances:

- the development must have been operating for a period in excess of 10 years in the assessment period/s being considered and is considered a normal part of the acoustic environment; and,
- the development must be operating in accordance with noise limits and requirements imposed in a consent or licence and/or be applying best practice.

Where a project intrusiveness noise level has been derived in this way, the derived level applies for a period of 10 years to avoid continuous incremental increases in intrusiveness noise levels. This approach is consistent with the purpose of the intrusiveness noise level to limit significant change in the acoustic environment. The purpose of the project amenity noise level is to moderate against background noise creep.

3.1.4 Project Amenity Noise Level (PANL)

The PANL is relevant to a specific land use or locality. To limit continuing increases in intrusiveness levels, the ambient noise level within an area from all combined industrial sources should remain below the recommended amenity noise levels specified in Table 2.2 (of the NPI). The NPI defines two categories of amenity noise levels:

- **Amenity Noise Levels (ANL)** – are determined considering all current and future industrial noise within a receiver area; and
- **Project Amenity Noise Level (PANL)** – is the recommended level for a receiver area, specifically focusing the project being assessed.

Additionally, Section 2.4 of the NPI states: "to ensure that industrial noise levels (existing plus new) remain within the recommended amenity noise levels for an area, a project amenity noise level applies for each new source of industrial noise as follows":

PANL for new industrial developments = recommended **ANL** minus 5dBA.

The following exceptions apply when deriving the PANL:

- areas with high traffic noise levels;
- proposed developments in major industrial clusters;
- existing industrial noise and cumulative industrial noise effects; and
- greenfield sites.

The NPI states with respect to high traffic noise areas:

The level of transport noise, road traffic noise in particular, may be high enough to make noise from an industrial source effectively inaudible, even though the LAeq noise level from that industrial noise source may exceed the project amenity noise level. In such cases the project amenity noise level may be derived from the $L_{Aeq,\ period(traffic)}$ minus 15 dB(A).

Where relevant this assessment has considered influences of traffic with respect to amenity noise levels (ie areas where existing traffic noise levels are 10dB greater than the recommended amenity noise level).

The recommended amenity noise levels as per Table 2.2 of the NPI are reproduced in **Table 3**.

Table 3 Amenity Noise Levels

Receiver Type	Noise Amenity Area	Time of day	Recommended amenity noise level dB LAeq(period)
Residential	Rural	Day	50
		Evening	45
		Night	40
	Suburban	Day	55
		Evening	45
		Night	40
	Urban	Day	60
		Evening	50
		Night	45
Hotels, motels, caretakers' quarters, holiday accommodation, permanent resident caravan parks.	See column 4	See column 4	5dB above the recommended amenity noise level for a residence for the relevant noise amenity area and time of day
School Classroom	All	Noisiest 1-hour period when in use	35 (internal) 45 (external)
Hospital ward			
- internal	All	Noisiest 1-hour	35
- external	All	Noisiest 1-hour	50
Place of worship - internal	All	When in use	40
Passive Recreation	All	When in use	50
Active Recreation	All	When in use	55
Commercial premises	All	When in use	65
Industrial	All	When in use	70

Notes: The recommended amenity noise levels refer only to noise from industrial noise sources. However, they refer to noise from all such sources at the receiver location, and not only noise due to a specific project under consideration. The levels represent outdoor levels except where otherwise stated.

Types of receivers are defined as rural residential; suburban residential; urban residential; industrial interface; commercial; industrial – see Table 2.3 and Section 2.7 of the NPI.

Note: Morning Shoulder – the period from 5am to 7am Monday to Saturday or 5am to 8am on Sundays, Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Evening Shoulder 10pm to 12am, Night - the remaining periods.

3.1.5 Maximum Noise Assessment Trigger Levels

The potential for sleep disturbance from maximum noise level events from a project during the night-time period needs to be considered. The NPI considers sleep disturbance to be both awakenings and disturbance to sleep stages.

Where night-time noise levels from a development/premises at a residential location exceed the following criteria, a detailed maximum noise level event assessment should be undertaken:

- $L_{Aeq(15min)}$ 40dB or the prevailing RBL plus 5dBA, whichever is the greater, and/or
- L_{Amax} 52dB or the prevailing RBL plus 15dBA, whichever is the greater.

A detailed assessment should cover the maximum noise level, the extent to which the maximum noise level exceeds the rating background noise level, and the number of times this happens during the night-time period.

Other factors that may be important in assessing the impacts on sleep disturbance include:

- how often the events would occur;
- the distribution of likely events across the night-time period and the existing ambient maximum events in the absence of the development;
- whether there are times of day when there is a clear change in the noise environment (such as during early morning shoulder periods); and
- current understanding of effects of maximum noise level events at night.

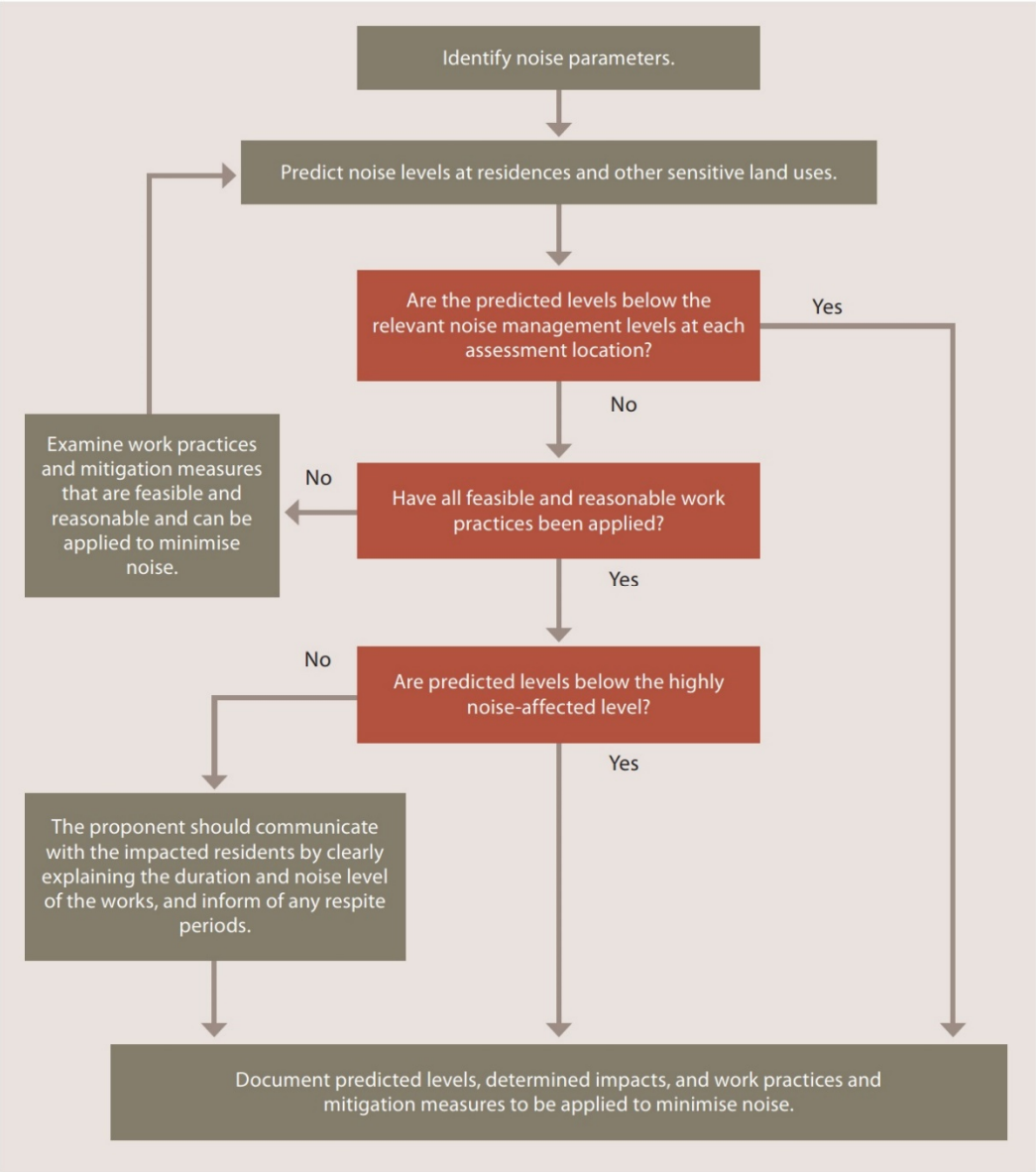
3.2 Interim Construction Noise Guideline

The ICNG sets out procedures to identify and address the impacts of construction noise on residences and other sensitive land uses. This section provides a summary of noise objectives that are applicable to the assessment. The ICNG provides two methodologies for the assessment of construction noise emissions:

- Quantitative, which is suited to major construction projects with typical durations of more than three weeks; and
- Qualitative, which is suited to short term infrastructure maintenance (< three weeks).

The qualitative assessment methodology is a more simplified approach that relies on noise management strategies. This study has adopted a quantitative assessment approach which is summarised in **Figure 2.** The quantitative approach includes identification of potentially affected receivers, derivation of the construction noise management levels, quantification of potential noise impact at receivers via predictive modelling and, provides management and mitigation recommendations.

Figure 2 Quantitative Assessment Processes for Assessing and Managing Construction Noise



Source: Department of Environment and Climate Change, 2009.

3.2.1 Standard Hours for Construction

Table 4 summaries the ICNG recommended standard hours for construction works.

Table 4 Recommended Standard Hours for Construction

Daytime	Construction Hours
Monday to Friday	7am to 6pm
Saturdays	8am to 1pm
Sundays or Public Holidays	No construction

These recommended hours do not apply in the event of direction from police, or other relevant authorities, for safety reasons or where required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm. Construction activities are anticipated to be undertaken during standard construction hours.

3.2.2 Construction Noise Management Levels

Section 4 of the ICNG (DECC, 2009) details the quantitative assessment method involving predicting noise levels and comparing them with the Noise Management Level (NML) and are important indicators of the potential level of construction noise impact. **Table 5** reproduces the ICNG Noise Management Level (NML) for residential receivers. The NML is determined by adding 10dB (standard hours) or 5dB (OOH) to the Rating Background Level (RBL) for each specific assessment period.

Table 5 Noise Management Levels		
Time of Day	Management Level LAeq(15min)[1]	How to Apply
Recommended standard hours: Monday to Friday 7am to 6pm Saturday 8am to 1pm No work on Sundays or public holidays.	Noise affected RBL + 10dB	The noise affected level represents the point above which there may be some community reaction to noise. Where the predicted or measured LAeq(15min) is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. The proponent should also inform all potentially impacted residents of the nature of work to be carried out, the expected noise levels and duration, as well as contact details.
	Highly noise affected 75dBA	The highly noise affected level represents the point above which there may be strong community reaction to noise. Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur, taking into account times identified by the community when they are less sensitive to noise such as before and after school for work near schools, or mid-morning or mid-afternoon for work near residences; and if the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
Outside recommended standard hours.	Noise affected RBL + 5dB	A strong justification would typically be required for work outside the recommended standard hours. The proponent should apply all feasible and reasonable work practices to meet the noise affected level. Where all feasible and reasonable practices have been applied and noise is more than 5dBA above the noise affected level, the proponent should negotiate with the community. For guidance on negotiating agreements see section 7.2.2.

Note 1: The Rating Background Level (RBL) is an overall single figure background level representing each assessment period over the whole monitoring period. The RBL is used to determine the construction noise management levels for noise assessment purposes and is the median of the ABL's.

4 Existing Noise Environment

4.1 Unattended Noise Monitoring

To quantify the existing background noise environment of the area, unattended noise monitoring was conducted at the undeveloped project site which is representative of the surrounding noise catchment. The monitoring location is shown in **Figure 1.**

The unattended noise survey was conducted in general accordance with the procedures described in Australian Standard AS 1055:2018, "Acoustics - Description and Measurement of Environmental Noise".

The measurements were carried out using a Svantek 977 noise analyser from Tuesday 11 August 2020 to Wednesday 19 August 2020. Observations on-site identified the surrounding locality was typical of an urban environment, with passing traffic noise audible in the area. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed ±0.5dBA. All equipment carried appropriate and current NATA (or manufacturer) calibration certificates. Calibration certificates of the sound level meters used for this project are available on request.

Data affected by adverse meteorological conditions have been excluded from the results in accordance with methodologies provided in Fact Sheet A4 of the NPI. The results of long term unattended noise monitoring are summarised in **Table 6** and plotted in graph format along with wind speed and rainfall for the monitoring period in **Appendix C**.

Table 6 Background Noise Monitoring Summary

Monitoring Location	Period[1]	Measured Background Noise Level (LA90) dB RBL	Measured dB LAeq
L1	Day	52	66
	Evening	40	62
	Evening Shoulder	32	58
	Night	30[2]	59
	Morning Shoulder	38	63

Note: Excludes periods of wind or rain affected data. Meteorological data obtained from the Bureau of Meteorology weather station Newcastle Nobbys Signal Station AWS 32.92°S 151.80°E 33m AMSL.

Note 1: Morning Shoulder – the period from 5am to 7am Monday to Saturday or 5am to 8am on Sundays, Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Evening Shoulder 10pm to 12am, Night - the remaining periods.

Note 2: Actual RBLs are below assumed NPI minimums; therefore, assumed minimum RBLs adopted.

4.1.1 Attended Noise Monitoring

To validate background noise levels, one 15-minute attended noise monitoring assessment was completed at the project site. Observations during the survey noted that road traffic from Wilsons Road and Warners Bay Road was the dominant contributor to background noise levels.

The monitored noise level contributions and observed meteorological conditions for the measurement are presented in **Table 7**.

Table 7 Operator-Attended Noise Survey Results

Location	Date / Time (hrs)	Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
		L_{Amax}	L_{Aeq}	L_{A90}		
NM1	11/08/2020 14:13	84	68	53	WD: SE WS: 1m/s Temp: 17°C	Traffic 42-84 Birds <40-78

Note 1: Morning Shoulder – the period from 5am to 7am Monday to Saturday or 5am to 8am on Sundays, Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Evening Shoulder 10pm to 12am, Night - the remaining periods.

5 Noise Assessment Criteria

5.1 Operational Noise Criteria

5.1.1 Project Intrusiveness Noise Levels

The PINLs for the project are presented in **Table 8** and have been determined based on the minimum assumed RBLs +5dBA from Section 2.3 of the NPI.

Table 8 Project Intrusiveness Noise Levels

Receiver	Period[1]	Adopted RBL dB LA90(period)	PINL dB LAeq(15min)
Residential Receivers	Day	52	57
	Evening	40	45
	Evening Shoulder	32	37
	Night	30	35
	Morning Shoulder	38	43

Note 1: Morning Shoulder – the period from 5am to 7am Monday to Saturday or 5am to 8am on Sundays, Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Evening Shoulder 10pm to 12am, Night - the remaining periods.

5.1.2 Project Amenity Noise Levels

Residential receivers situated in surrounding area have been classified under the EPA's urban amenity category. This criterion is used in conjunction with the intrusiveness criteria to determine the limiting criteria. The PANLs for residential receivers potentially affected by the project are presented in **Table 9.**

Table 9 Amenity Noise Levels and Project Amenity Levels

Receiver Type	Noise Amenity Area	Period[1]	Recommended Amenity Noise Level $L_{Aeq(period)}$[2]	PANL $L_{Aeq(period)}$	PANL $L_{Aeq(15min)}$[3]
Residential Receivers	Urban	Day	60	55	58
		Evening	50	47[5]	50
		Evening Shoulder[4]	N/A	N/A	N/A
		Night	45	44[5]	47
		Morning Shoulder[4]	N/A	N/A	N/A
Medical Suite		When in Use	50	45	48
Commercial Receivers		When in Use	65	60	63
Passive Recreation		When in Use	50	45	48

Note 1: Morning Shoulder – the period from 5am to 7am Monday to Saturday or 5am to 8am on Sundays, Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Evening Shoulder 10pm to 12am, Night - the remaining periods.

Note 2: Recommended amenity noise levels as per Table 2.2 of the NPI.

Note 3: Includes a +3dB adjustment to the amenity period level to convert to a 15-minute assessment period as per Section 2.2 of the NPI.

Note 4: As per NPI guidance, shoulder periods are assessed on Intrusiveness levels only.

Note 5: $L_{Aeq,period}$ (traffic) as per section 2.4.1 of the NPI (i.e. existing $L_{Aeq\ traffic}$ -15dB).

5.1.3 Project Noise Trigger Levels

The PNTLs is the lower of either the PINL or the PANL. **Table 10** presents the derivation of the PNTLs in accordance with the methodologies outlined in the NPI.

Table 10 Project Noise Trigger Levels

Receiver	Period[1]	PINL dB $L_{Aeq(15min)}$	PANL dB $L_{Aeq(15min)}$	PNTL dB $L_{Aeq(15min)}$
Residential Receivers	Day	57	58	57
	Evening	45	50	45
	Evening Shoulder	37	N/A	37
	Night	35	47	35
	Morning Shoulder	43	N/A	43
Medical Suite	When in Use	N/A	48	48
Commercial Receivers	When in Use	N/A	63	63
Passive Recreation	When in Use	N/A	48	48

Note 1: Morning Shoulder – the period from 5am to 7am Monday to Saturday or 5am to 8am on Sundays, Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Evening Shoulder 10pm to 12am, Night - the remaining periods.

5.2 Maximum Noise Assessment Trigger Levels

The maximum noise trigger levels shown in **Table 11** are based on night time RBLs and trigger levels as per Section 2.5 of the NPI. The trigger levels will be applied to transient noise events that have the potential to cause sleep disturbance.

Table 11 Maximum Noise Trigger Level

Residential Receivers			
Evening Shoulder[1] (10pm to 12am)			
$L_{Aeq(15min)}$		L_{Amax}	
40dB $L_{Aeq(15min)}$ or RBL + 5dB		52dB L_{Amax} or RBL + 15dB	
Trigger	40	Trigger	52
RBL +5dB	37	RBL +15dB	47
Highest	**40**	**Highest**	**52**
Night Period[1] (12am to 5am)			
$L_{Aeq(15min)}$		L_{Amax}	
40dB $L_{Aeq(15min)}$ or RBL + 5dB		52dB L_{Amax} or RBL + 15dB	
Trigger	40	Trigger	52
RBL +5dB	35	RBL +15dB	45
Highest	**40**	**Highest**	**52**
Morning Shoulder Period[1] (5am to 7am)			
$L_{Aeq(15min)}$		L_{Amax}	
40dB $L_{Aeq(15min)}$ or RBL + 5dB		52dB L_{Amax} or RBL + 15dB	
Trigger	40	Trigger	52
RBL +5dB	43	RBL +15dB	53
Highest	**43**	**Highest**	**53**

Note: As per Section 2.5 of the NPI, the highest of each metric are adopted as the trigger levels.

Note 1: Morning Shoulder – the period from 5am to 7am Monday to Saturday or 5am to 8am on Sundays, Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Evening Shoulder 10pm to 12am, Night - the remaining periods.

5.3 Construction Noise Management Levels

The Construction Noise Management Levels established in accordance with the ICNG for the project are presented in **Table 12**.

Table 12 Construction Noise Management Levels

Location	Period[1]	Rating Background Level (RBL), dB LA_{90}	Noise Management Level dB $LA_{eq(15min)}$ (RBL+10dB)
Residential Receivers	Day	52	62
Medical Suites	Day	N/A	70
Commercial Receivers	Day	N/A	70
Passive Recreation	Day	N/A	60

Note 1: See Table 4 of this report for Recommended Standard Hours for Construction.

Note 2: Converted from internal criteria to external criteria assuming a conservative 10dB loss through the building façade as per the ICNG.

6 Modelling Methodology

A computer model was developed to quantify project noise emissions to neighbouring receivers using DGMR (iNoise, Version 2021.1) noise modelling software. iNoise is an intuitive and quality assured software for industrial noise calculations in the environment. 3D noise modelling is considered industry best practice for assessing noise emissions from projects.

The model incorporated a three-dimensional digital terrain map giving all relevant topographic information used in the modelling process. Additionally, the model uses relevant noise source data, ground type, attenuation from barrier or buildings and atmospheric information to predict noise levels at the nearest potentially affected receivers. Where relevant, modifying factors in accordance with Fact Sheet C of the NPI have been applied to calculations.

The model calculation method used to predict noise levels was in accordance with ISO 9613-1 'Acoustics – Attenuation of sound during propagation outdoors. Part 1: Calculation of the absorption of sound by the atmosphere' and ISO 9613-2 'Acoustics – Attenuation of sound during propagation outdoors. Part 2: General method of calculation' including corrections for meteorological conditions using CONCAWE[1]. The ISO 9613 standard from 1996 is the most used noise prediction method worldwide. Many countries refer to ISO 9613 in their noise legislation. However, the ISO 9613 standard does not contain guidelines for quality assured software implementation, which leads to differences between applications in calculated results. In 2015 this changed with the release of ISO/TR 17534-3. This quality standard gives clear recommendations for interpreting the ISO 9613 method. iNoise fully supports these recommendations. The models and results for the 19 test cases are included in the software.

[1] Report no. 4/18, "the propagation of noise from petroleum and petrochemical complexes to neighbouring communities", Prepared by C.J. Manning, M.Sc., M.I.O.A. Acoustic Technology Limited (Ref.AT 931), CONCAWE, Den Haag May 1981

6.1 Sound Power Levels

Table 13 presents the sound power level for each noise source modelled in this assessment. It is noted that sound power levels were sourced from manufacturer's specifications or from in-field measurements at similar project sites. The sound power levels have been adjusted to account for duration over a 15-minute period during the daytime period.

Table 13 Acoustically Significant Sources – Sound Power Levels *(re 10^{-12} Watts)*

Item and number modelled per 15 minutes	Individual Sound Power Level, dBA	Modelled Sound Power Level, dB $LA_{eq(15min)}$	Source Height[1]
Operation			
Rooftop Ventilation Condenser (x2)	76	79	0.5m
Rooftop Extractor Fan (x1)	73	73	0.5m
Car Idle, Start Up and Drive Off (x14)[2]	81	85	0.5m
Customers Vehicles Travelling Through Drive-Thru (15 cars per 15min)	81	85	0.5m
Light Vehicle Delivery (x1)[3]	81	78	1.0m
Heavy Vehicle Delivery (x1)	92	92	1.5m
Fuel Delivery (x1)	82	82	1.5m
Customer Ordering Display (x1)	75	75	1.0m
Waste Collection (x1)	86	86	2.5m
Sleep disturbance assessment (LA_{max}), Night time periods (10pm to 7am)			
Car Door Slam	87	87	0.5m
Heavy Vehicle Delivery Impact[4]	102	102	1.0m
Light Vehicle Delivery Impact[5]	92	92	1.0m
Construction Fleet			
Combined Construction Fleet	108		1.5m

Noe 1: Height above the relative ground or building below source.

Note 2: Includes a duration adjustment assuming vehicles operate for three (3) minutes continuously within a period of 15-minutes.

Note 3: Includes a duration adjustment assuming vehicles operate for seven (7) minutes continuously within a period of 15-minutes.

Note 4: Heavy Vehicle Impacts are representative of pallet/goods impact on hard surface.

Note 5: Light vehicle impact is representative of a sliding door/boot lid impact event.

6.2 Noise Mitigation Recommendations

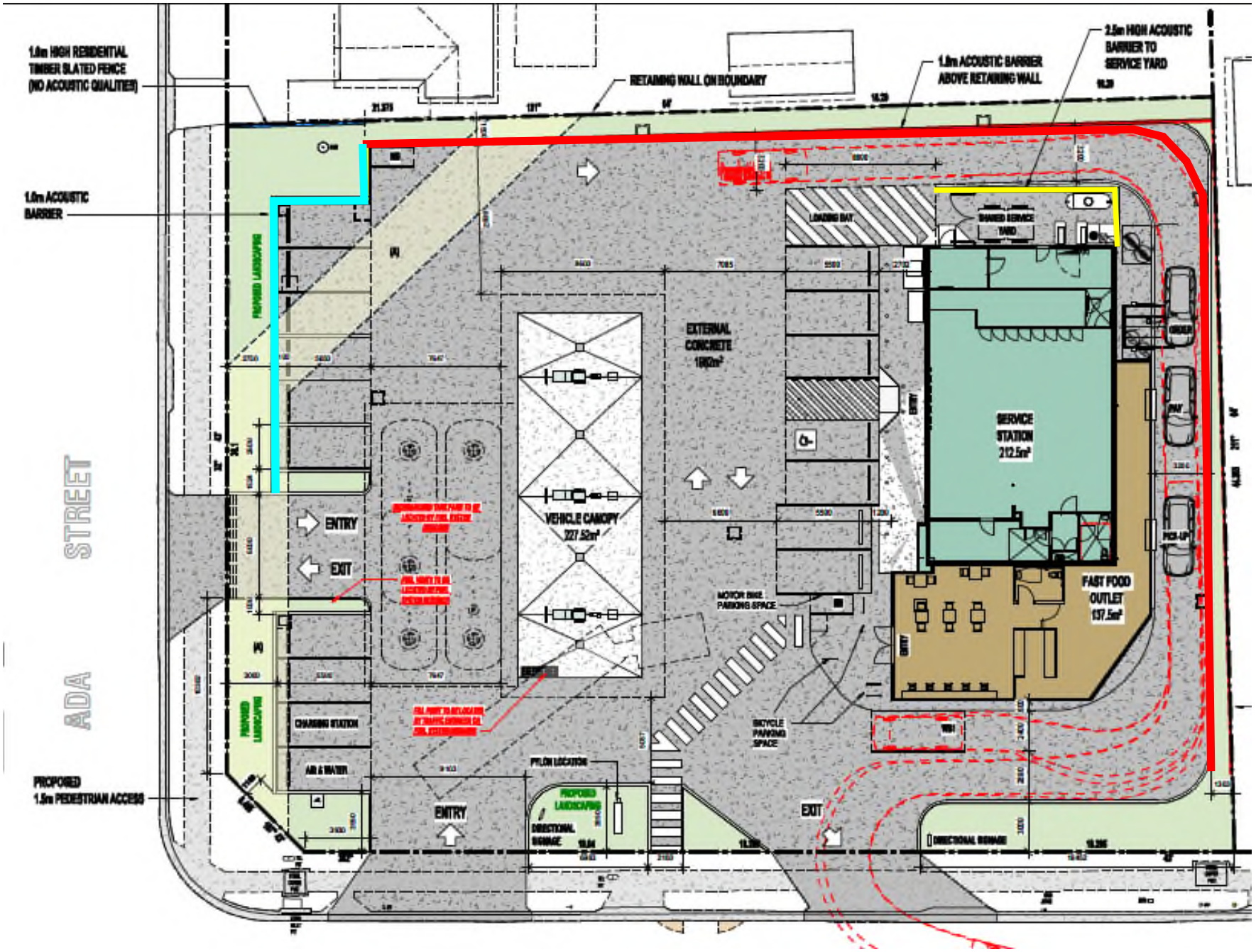
To ameliorate noise emissions, the noise model adopted the following assumptions and recommended noise controls:

- construction of an impervious barrier along the north-eastern and south-eastern boundaries of the project site. (see **Figure 3**). The barrier should be constructed to a height of 1.8m above the finished level of the project site and consist of materials with a surface density of at least 10kg/m^2, and not contain any gaps (ie lapped and capped timber, colorbond steel or equivalent);
- construction of an impervious barrier along the north corner of the project site. (see **Figure 3**). The barrier should be constructed to a height of 1m above the finished level of the project site and consist of materials with a surface density of at least 10kg/m^2, and not contain any gaps (ie lapped and capped timber, colorbond steel or equivalent);
- construction of an impervious barrier along the loading bay of the project site. (see **Figure 3**). The barrier should be constructed to a height of 2.5m above the finished level of the project site and consist of materials with a surface density of at least 10kg/m^2, and not contain any gaps (ie lapped and capped timber, colorbond steel or equivalent)
- construction of an impervious barrier along the north-western boundary of the project site. (see **Figure 3**). The barrier should be constructed to a height of 1.0m above the finished level of the project site and consist of materials with a surface density of at least 10kg/m^2, and not contain any gaps (ie lapped and capped timber, colorbond steel or equivalent);
- construction of an impervious barrier around the rooftop mechanical plant of the service station building which extends 500mm above the top of the highest item of plant. The barrier should be constructed of materials with a surface density of at least 10kg/m^2, and not contain any gaps (ie lapped and capped timber, colorbond steel or equivalent);
- heavy good deliveries and waste collection are assumed to occur from 7am to 6pm only;
- fuel deliveries are assumed to occur from 7am to 10pm only;
- There is a 50% reduction of light vehicles (from the daytime period) during the evening shoulder, night and morning shoulder; and
- COD's are assumed to be set to the lowest volume setting.

FIGURE 3

INDICATIVE BARRIER LOCATION

REF: MAC190967



KEY	
	PROPOSED 2.5M ACOUSTIC BARRIER
	PROPOSED 1.8M ACOUSTIC BARRIER
	PROPOSED 1M ACOUSTIC BARRIER

MAC
Muller Acoustic Consulting

7 Noise Assessment Results

This assessment has quantified operational noise levels at the nearest residential receivers from the simultaneous occurrence of all the following sources:

- customer car and truck noise (driving around site or parking);
- fuel/consumable goods deliveries/waste collection; and
- service station operations, and mechanical plant.

It is noted that the potential for maximum noise level events to occur simultaneously is unlikely for this project as the majority of vehicles in any 15-minute period would be parked and not operational.

7.1 Operational Noise Results

Noise predictions from all sources have been quantified at surrounding receivers. The coincidence of all noise sources occurring onsite simultaneously for an entire 15-minute period is unlikely. However, it is probable that several sources may occur simultaneously on occasion for a limited duration. To account for this, modelling has adopted the $LA_{eq(15min)}$ contribution of sources which were derived from in-field measurements of operation sources or activities. Results of the noise modelling predictions are presented in **Table 14** for cumulative onsite operations. Receiver heights were set to represent each floor of the surrounding residential buildings with the results for the worst case receiver height reported and assessed against the relevant criteria.

Results of the noise modelling are predicted to satisfy the relevant NPI noise criteria at all nearest receivers for all assessment periods with the implementation of the mitigation measures described in **Section 6.2**. Where compliance is achieved at the nearest identified receivers it is assumed compliance would also be achieved at remaining surrounding receivers.

A review of potential future dwellings that may be developed at the identified surrounding receiver locations has been comp29pleted and there are several design elements that may, where required, be considered to satisfy relevant internal noise levels in accordance with AS2107. These elements include glazing, wall and ceiling construction, offset from the site, orientation of the dwelling (ie bedrooms, living areas locations).

Table 14 Combined Noise Predictions – All Receivers

Residential Receivers

Rec	Predicted Noise Level dB $L_{Aeq(15min)}$					PNTL dB $L_{Aeq(15min)}$					Comply
	Day	Eve	ES	Night	MS	Day	Eve	ES	Night	MS	
R1	34	30	<35	<35	<35	57	45	37	35	43	✓
R2	39	32	<35	<35	<35	57	45	37	35	43	✓
R3	34	33	<35	<35	<35	57	45	37	35	43	✓
R4	44	40	35	35	35	57	45	37	35	43	✓
R5	44	38	<35	<35	<35	57	45	37	35	43	✓
R6	36	35	<35	<35	<35	57	45	37	35	43	✓
R7	48	36	<35	<35	<35	57	45	37	35	43	✓
R8	48	38	37	35	37	57	45	37	35	43	✓
R9	43	<35	<35	<35	<35	57	45	37	35	43	✓
R10	43	<35	<35	<35	<35	57	45	37	35	43	✓
R11	45	<35	<35	<35	<35	57	45	37	35	43	✓
R12	37	<35	<35	<35	<35	57	45	37	35	43	✓
R13	35	<35	<35	<35	<35	57	45	37	35	43	✓
R14	36	<35	<35	<35	<35	57	45	37	35	43	✓
R15	<35	<35	<35	<35	<35	57	45	37	35	43	✓
R16	36	<35	<35	<35	<35	57	45	37	35	43	✓
R17	<35	<35	<35	<35	<35	57	45	37	35	43	✓
R18	<35	<35	<35	<35	<35	57	45	37	35	43	✓

Other Receivers

Receiver	Period	Predicted Noise Level dB $L_{Aeq(15min)}$	PNTL dB $L_{Aeq(15min)}$	Compliant
MED1	When in Use	<35	48	✓
MED2	When in Use	40	48	✓
C1	When in use	40	63	✓
C2	When in use	41	63	✓
C3	When in use	44	63	✓
C4	When in use	43	63	✓
PR1	When in use	39	48	✓

Note 1: Morning Shoulder (MS) – the period from 5am to 7am Monday to Saturday or 5am to 8am on Sundays, Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening (Eve) - the period from 6pm to 10pm; Evening Shoulder (ES) 10pm to 12am, Night - the remaining periods

7.2 Maximum Noise Level Assessment

In assessing sleep disturbance, typical L_{Amax} noise levels from transient events were assessed to the nearest residential receivers.

For the maximum noise assessment during the evening shoulder, night and morning shoulder periods the following maximum noise level events may occur:

- light vehicle delivery impact - Lw 92dBA; and
- a car door slam - Lw 87dBA.

Predicted noise levels from maximum noise level events for assessed receivers are presented in **Table 15.** Results identify that the maximum noise trigger levels will be satisfied for all assessed receivers during the evening shoulder.

Table 15 Maximum Noise Levels Assessment[1]

Receiver	Predicted Noise Level dB L_{Amax}		Trigger Level dB L_{Amax}			Compliant
	Light Vehicle Delivery Impact	Customer Vehicle Door Slam	Evening Shoulder	Night	Morning Shoulder	
R1	<35	<35	52	52	53	✓
R2	<35	<35	52	52	53	✓
R3	<35	<35	52	52	53	✓
R4	44	39	52	52	53	✓
R5	40	40	52	52	53	✓
R6	38	<35	52	52	53	✓
R7	<35	45	52	52	53	✓
R8	38	<35	52	52	53	✓
R9	<35	39	52	52	53	✓
R10	<35	40	52	52	53	✓
R11	<35	40	52	52	53	✓
R12	<35	<35	52	52	53	✓
R13	<35	<35	52	52	53	✓
R14	<35	<35	52	52	53	✓
R15	<35	<35	52	52	53	✓
R16	<35	<35	52	52	53	✓
R17	<35	<35	52	52	53	✓
R18	<35	<35	52	52	53	✓

Note 1: Morning Shoulder – the period from 5am to 7am Monday to Saturday or 5am to 8am on Sundays, Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Evening Shoulder 10pm to 12am, Night - the remaining periods.

Potential future dwellings that may be developed at the identified receiver locations would need to consider design elements such as glazing, wall and ceiling construction, offset from the site, siting of noise sensitive rooms (ie bedrooms, living areas) to ensure the relevant internal noise levels in accordance with AS2107 are achieved.

7.3 Construction Noise Results

Predictions identify that noise levels from construction/demolition may exceed the adopted noise management levels at several assessed receivers. Therefore, recommendations to reduce the impact of construction noise emissions on surrounding receivers, are provided in **Section 8**. **Table 16** presents the results of modelled construction (and demolition) noise emissions.

Table 16 Construction/Demolition Noise Levels – All Receivers

Receiver	Period[1]	Predicted Noise Level dB $L_{Aeq(15min)}$	Management Level dB $L_{Aeq(15min)}$	Compliant
R1	Day	53	62	✓
R2	Day	57	62	✓
R3	Day	55	62	✓
R4	Day	61	62	✓
R5	Day	61	62	✓
R6	Day	56	62	✓
R7	Day	66	62	X
R8	Day	64	62	X
R9	Day	60	62	✓
R10	Day	58	62	✓
R11	Day	62	62	✓
R12	Day	58	62	✓
R13	Day	55	62	✓
R14	Day	58	62	✓
R15	Day	55	62	✓
R16	Day	60	62	✓
R17	Day	57	62	✓
R18	Day	53	62	✓
MED1	Day	43	70	✓
MED2	Day	71	70	X
C1	Day	62	70	✓
C2	Day	62	70	✓
C3	Day	60	70	✓
C4	Day	60	70	✓
PR1	Day	62	60	X

Note 1: See Table 4 of this report for Recommended Standard Hours for Construction.

8 Construction Recommendations

The results of the Noise Assessment demonstrate that levels during standard construction hours have potential to exceed the ICNG noise management levels at the closest assessed residential receiver surrounding the project. Accordingly, it is recommended that noise management and mitigation measures be adopted during noise intensive construction activities to limit impacts on surrounding receivers. Recommendations for consideration during construction activities for this project may include:

- the proponent should inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details;
- toolbox and induction of personnel prior to shift to discuss noise control measures that may be implemented to reduce noise emissions to the community;
- where possible use mobile screens or construction hording to act as barriers between construction works and receivers;
- all plant should be shut down when not in use. Plant to be parked/started at farthest point from relevant assessment locations;
- operating plant in a conservative manner (no over-revving);
- selection of the quietest suitable machinery available for each activity;
- avoidance of noisy plant/machinery working simultaneously where practicable;
- minimisation of metallic impact noise;
- all plant are to utilise a broadband reverse alarm in lieu of the traditional hi frequency type reverse alarm; and
- undertake letter box drops to notify receivers of potential works.

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9 Discussion and Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Assessment to quantify potential impacts from the Proposed Service Station with Take Away Food Premises to be established at 10-14 Wilsons Road, Mount Hutton, NSW.

The assessment has quantified potential operational emissions pertaining to customer generated noise, including light and heavy vehicles, light and heavy vehicle deliveries, mechanical plant and drive-thru operations.

The results of the NA demonstrate that emissions from the project would satisfy the relevant PNTL at all assessed receivers for all assessment periods with the implementation of the recommendations provided in this report.

Furthermore, sleep disturbance is not anticipated, as emissions from impact noise are predicted to remain below the EPA's Maximum Noise Trigger Levels.

Modelled noise emissions from project construction activities identify that construction noise emissions have potential to exceed the noise management levels at the closest assessed residential receiver. Noise management measures are provided in Section 8 of this report to reduce potential impacts on surrounding receivers.

Based on the findings of the Noise Assessment, it is recommended Council approve the project taking into consideration the noise control and management strategies provided.

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Appendix A – Glossary of Terms

A number of technical terms have been used in this report and are explained in **Table A1**.

Table A1 Glossary of Acoustical Terms

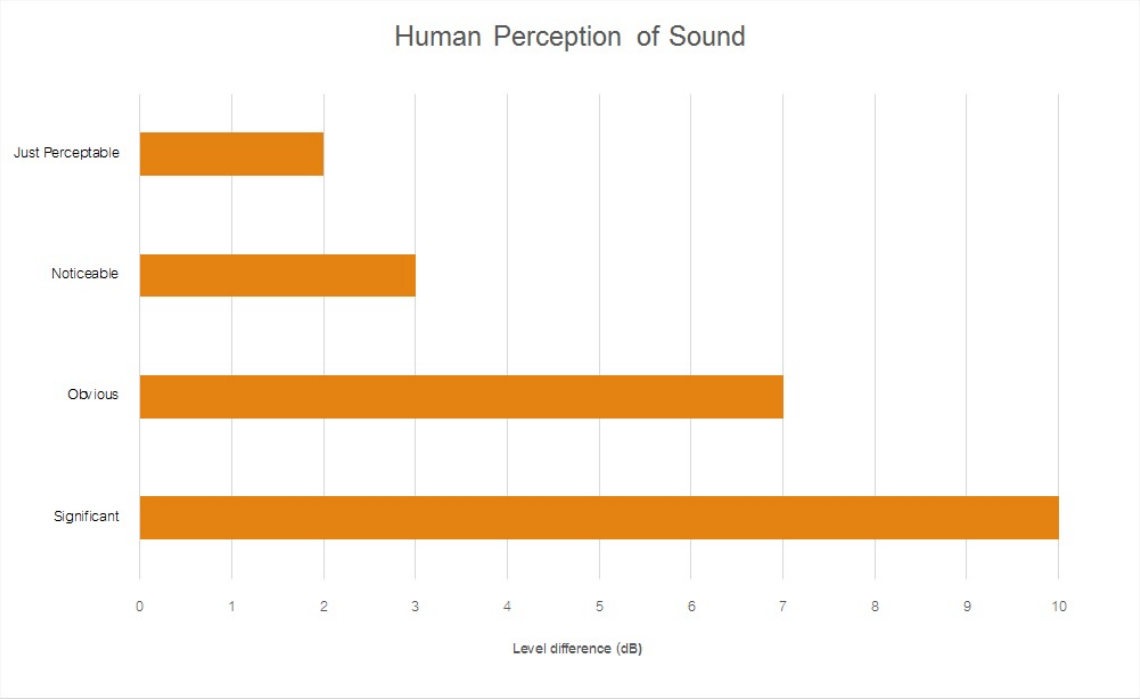
Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured L90 statistical noise levels.
Ambient Noise	The total noise associated with a given environment. Typically, a composite of sounds from all sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to sound.
Background Noise	The underlying level of noise present in the ambient noise, excluding the noise source under investigation, when extraneous noise is removed. This is usually represented by the LA90 descriptor
dBA	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z), dB(L)	Decibels Z-weighted or decibels Linear (unweighted).
Extraneous Noise	Sound resulting from activities that are not typical of the area.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second - 1 oscillation per second equals 1 hertz.
LA10	A sound level which is exceeded 10% of the time.
LA90	Commonly referred to as the background noise, this is the level exceeded 90% of the time.
LAeq	Represents the average noise energy or equivalent sound pressure level over a given period.
LAmax	The maximum sound pressure level received at the microphone during a measuring interval.
Masking	The phenomenon of one sound interfering with the perception of another sound. For example, the interference of traffic noise with use of a public telephone on a busy street.
RBL	The Rating Background Level (RBL) as defined in the NPI, is an overall single figure representing the background level for each assessment period over the whole monitoring period. The RBL, as defined is the median of ABL values over the whole monitoring period.
Sound power level (Lw or SWL)	This is a measure of the total power radiated by a source in the form of sound and is given by 10.log10 (W/Wo). Where W is the sound power in watts to the reference level of 10^{-12} watts.
Sound pressure level (Lp or SPL)	the level of sound pressure; as measured at a distance by a standard sound level meter. This differs from Lw in that it is the sound level at a receiver position as opposed to the sound 'intensity' of the source.

Table A2 provides a list of common noise sources and their typical sound level.

Table A2 Common Noise Sources and Their Typical Sound Pressure Levels (SPL), dBA

Source	Typical Sound Pressure Level
Threshold of pain	140
Jet engine	130
Hydraulic hammer	120
Chainsaw	110
Industrial workshop	100
Lawn-mower (operator position)	90
Heavy traffic (footpath)	80
Elevated speech	70
Typical conversation	60
Ambient suburban environment	40
Ambient rural environment	30
Bedroom (night with windows closed)	20
Threshold of hearing	0

Figure A1 – Human Perception of Sound



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Appendix B – Site Plans

DEVELOPMENT APPLICATION

Service Station & Take Away Food
Lot 1-3, DP21206, 10-14
Wilsons Rd Mount Hutton

LIST OF

- CLAUSE B1.4 – MATERIALS & FORMS CONSTRUCTIONS
- SPEC. C1.1- FIRE RESISTING CONSTRUCTION
- SPEC. C1.10 – FIRE HAZARD PROPERTIES
- SPEC. C1.11 – PERFORMANCE OF EXTERNAL WALLS IN A FIRE
- CLAUSE C1.6 – VERTICAL SEPARATION OF OPENINGS IN EXTERNAL WALLS
- CLAUSE C2.12 – SEPARATION OF EQUIPMENT
- CLAUSE C3.13 – ELECTRICITY SUPPLY SYSTEM
- CLAUSE C3.4 – ACCEPTABLE METHODS OF PROTECTION (OF OPENINGS)
- CLAUSE C3.8 – OPENING IN FIRE ISOLATED EXITS
- CLAUSE C3.15 – OPENINGS FOR SERVICE INSTALLATIONS
- CLAUSE D1.10 – DISCHARGE FROM EXITS
- CLAUSE D2.7 – INSTALLATIONS IN EXITS AND PATHS OF TRAVEL

- CLAUSE D2.13 – GOINGS AND RISERS TREADS WHICH HAVE:-
a. A SURFACE WITH A SLIP-RESISTANCE CLASSIFICATION NOT LESS THAN THAT LISTED IN TABLE D2.14 WHEN TESTED IN A CCORDANCE WITH AS 4586 OR
(B) A NOSING STRIP WITH A SLIP-RESISTANCE CLASSIFICATION NOT LESS THAN THAT LISTED IN TABLE D2.14 WHEN TESTED IN ACCORDANCE WITH AS 4586.

- CLAUSE D2.14 – LANDINGS WHICH HAVE: -
a. A SURFACE WITH A SLIP-RESISTANCE CLASSIFICATION NOT LESS THAN THAT LISTED IN TABLE D2.14 WHEN TESTED IN A CCORDANCE WITH AS 4586 OR
(B) A STRIP AT THE EDGE OF THE LANDING WITH A SLIP-RESISTANCE CLASSIFICATION NOT LESS THAN THAT LISTED IN TABLE D2.14 WHEN TESTED IN ACCORDANCE WITH AS 4586, WHERE THE ED GE LEADS TO A FLIGHT BELOW.

- CLAUSE D2.15 – THRESHOLDS
- *- CLAUSE D2.16 – BALUSTRADES*
- *- CLAUSE D2.17 – HANDRAILS*
- CLAUSE D2.21 – OPERATION OF LATCH
- CLAUSE D2.23 – SIGN ON DOORS
- CLAUSE D3.2 – GENERAL BUILDING ACCESS REQUIREMENTS
- CLAUSE D3.3 – PARTS OF BUILDING TO BE ACCESSIBLE
- CLAUSE D3.6 – IDENTIFICATION OF ACCESSIBLE FACILITIES, SERVICES AND FEATURES
- CLAUSE D3.8 – TACTILE INDICATORS
- CLAUSE F1.1 – WATERPROOFING OF WET AREAS
- CLAUSE F1.9 Pt.10 – DAMP PROOFING
- CLAUSE F2.5 – CONSTRUCTION OF SANITARY COMPARTMENTS
- PART F4 – LIGHTING AND VENTILATION
- CLAUSE F5.4 – SOUND INSULATION OF FLOORS
- CLAUSE F5.5 – SOUND INSULATION OF WALLS
- CLAUSE F5.6 – SOUND INSULATION OF SERVICES
- CLAUSE F5.7 – SOUND INSULATION OF PUMPS

GENERAL

1. BUILDING SHELL DESIGN INTENT SHOWN. CONTRACTOR TO PROPOSE DETAILED DESIGN FOR CONSTRUCTION, INCLUDING ALL SITE RELATED WORKS, STRUCTURAL, CIVIL WORKS & BUILDING SERVICES.
2. THE CONTRACTOR SHALL VERIFY ALL EXISTING IN-GROUND AND ABOVE-GROUND SERVICES WITHIN THE SCOPE OF WORKS BEFORE COMMENCING CONSTRUCTION/DEMOLITION.
3. ANY 3D DRAWINGS ARE INDICATIVE ONLY, AND ARE TO BE READ IN CONJUNCTION WITH OTHER RELEVANT DRAWINGS.
4. ALL ACCESSIBILITY AND MOBILITY DESIGN (DDA) ITEMS TO COMPLY WITH A.S. 1428.1 2009
5. THIS DRAWING S SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTS, SPECIFICATIONS, SCHEDULES AND DRAWINGS INCLUDING CIVIL, STRUCTURAL, HYDRAULIC
6. DIMENSIONS:

CONTRACTOR AND SUB-CONTRACTOR SHALL VERIFY ALL DIMENSIONS OF THIS DRAWING AND SITE CONDITIONS PRIOR TO ANY WORK COMMENCING.
FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS (UNLESS NOTED OTHERWISE).
FIGURED DIMENSIONS ARE:
- WALL/ PARTITIONS SETOUT TO CENTRE LINE WHERE NOTED
- ALL OTHER WALL PARTITION DIMENSIONS ARE TO FINISH FACE OF PARTITION.
- CEIL INGS: FINISHED UNDERSIDE OF CEIL INGS - CEILIN G HEIGHT IS MEASURED FROM FINISH FLOOR LEVEL.
- FITTINGS AND FIXTURES: - DIMENSIONS TO FIXTURES AND FITTINGS ARE SETOUT FROM "FINISH" WALL FACE / FINISH FLOOR LEVEL.

PLANS TO BE READ IN CONJUNCTION WITH:
- BUILDING C ODE OF AUSTRALIA
- RELEVANT AUSTRALIAN STANDARDS
- HYDRAULIC DRAWING SET
- CIVIL DRAWING SET
- STRUCTURAL DRAWING SET
- LANDSCAPE DRAWING SET

IF NO INTERNAL FITOUT FINISHES & PLANS ARE PRESENT, CLIENT SELECTION S & DETAILS ARE TO TAKE PRECEDENCE.

PLEASE NOTE:
DETAILS SHOWN ON THIS PLAN ARE INTENDED T O BE ACCURATE.
HOWEVER INFORMATION WRITTEN INTO INDIVIDUAL CONTRACTS
AND DRAWINGS WILL TAKE PRECEDENCE OVER THIS SET.

NOTE: PROPOSED DEVELOPMENT WILL BE DESIGNED & CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING STANDARDS.

AS3798 - EARTHWORKS
AS3600 - STEEL STRUCTURES
AS4100 - STRUCTURAL S TEEL
AS1288 – GLASS IN BUILDINGS
AS1940 - METAL ROOF SHEETING
AS3740 - WET AREA CONSTRUCTION
AS2311 - PAINTING OF BUILDINGS
AS2419 - INSTALLATION OF PORTABLE FIRE EXTINGUISHERS
AS2293 - EMERGENCY ESCAPE LIGHTING & SIGNS
AS1428 - DESIGN FOR ACCESS & MOBILITY
AS2890 - OFF STREET PARKING FACILITIES

INFORMATION NOT SUPPLIED ON THIS DRAWING WILL NEED TO BE CONFIRMED BY LESSEE SPECIFICATION
INTERNAL ELEVATIONS SHOWN ARE INDICATIVE ONLY AND FURTHER DETAIL WILL NEED TO BE ADDED BY LESSEE
ALL FOOD OUTLET AREAS TO COMPLY WITH AS 4674-2004

Rev	Description	Date
19	MB Space Rev	02.03.22
18	Vehicle turning	28.02.22
17	Additional Garden Nth	18.02.22
16	Fencing Rev	17.12.21
15	Driveway-Ped-Acoustic	17.12.21
14	Acoustic Rev	16.12.21
13	Landscape Rev	15.12.21
12	Fence Rev	22.10.21
11	Fence Revs	25.05.21
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6	Car Turn Rev	03.02.21
5	Revisions for DA	01.02.21
4	Issued for DA	17.09.20
3	Revision	08.09.20
2	Revision	27.08.20
1	Issued to Client	24.08.20

BROWN COMMERCIAL BUILDING
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Client

Mt Hutton LF Pty Ltd

Project

Service Station and Take Away Food

Location:	
Lot:	1-3
No:	10-14
Street:	Wilsons Road
Suburb:	Mount Hutton
DP:	21206
Scale	As indicated
Drawn by	
Checked by	
Sheet Size	A1

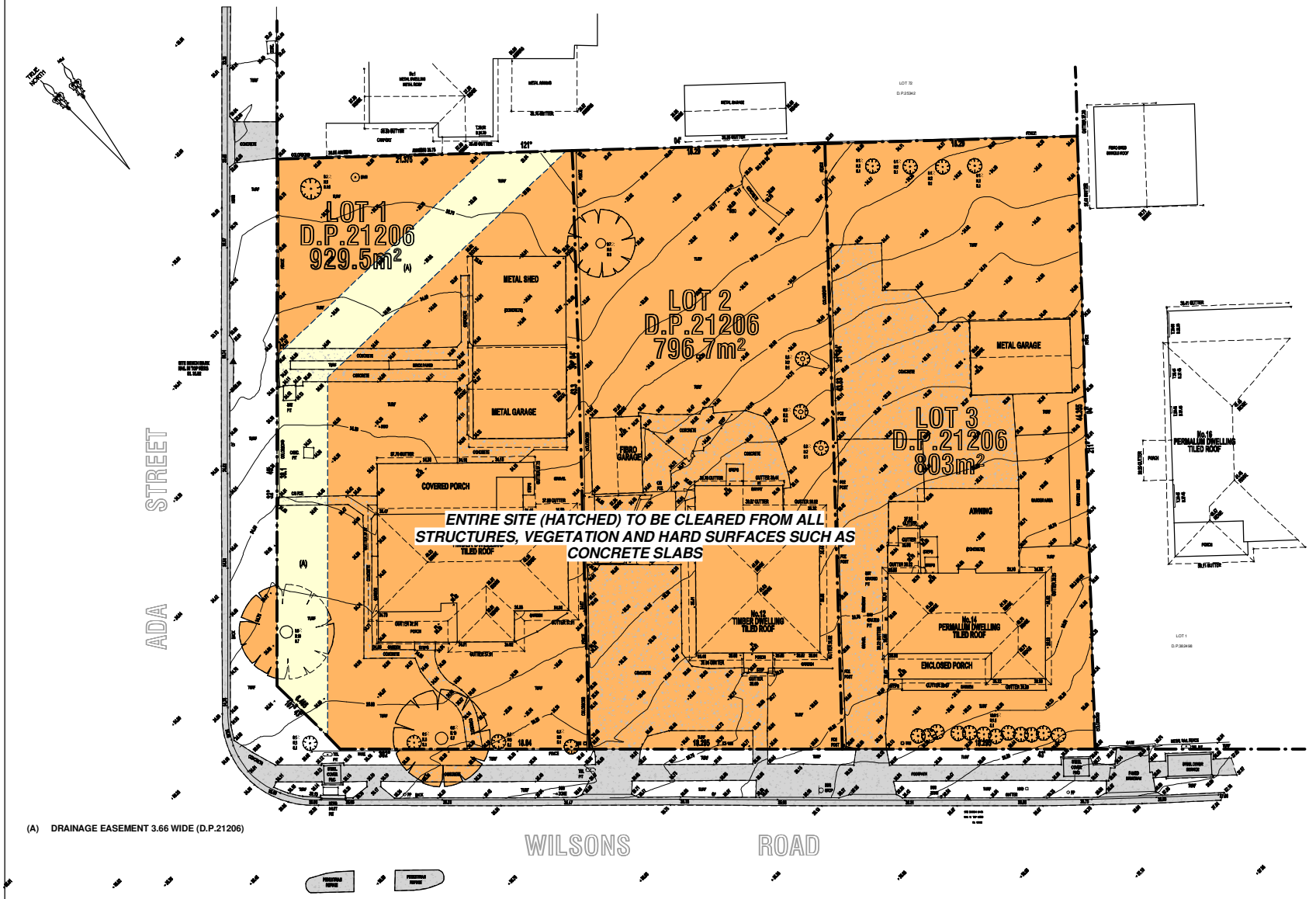
Drawing

COVER PAGE & EXISTING SITE

Job No:	Issue:	No:
BC020319		00

SHEET LIST

Sheet No.	Sheet Name	Drawn By	Rev	Current Rev Date
00	COVER PAGE & EXISTING SITE	MDT	19	02.03.22
01	DEMOLITION PLAN	MDT	4	17.09.20
03	BUILDING PLANS	MDT	17	18.02.22
04	Canopy Plans	MDT	4	17.09.20
05	SIGNAGE PLAN	MDT	7	02.03.21
06	SHADOW DIAGRAMS	Author	19	02.03.22



(A) DRAINAGE EASEMENT 3.66 WIDE (D.P.21206)

Demolition Plan
1 : 150 (A1)

DEMOLITION LEGEND

TO BE DEMOLISHED OR RELOCATED

ALL BUILDINGS WITHIN HATCHED AREA INDICATED ABOVE, POOLS, EXTERNAL CONCRETE TO BE DEMOLISHED.

ALL DEMOLISHED STRUCTURES TO BE DONE IN ACCORDANCE WITH AS2601-2001 Demolition of Structures

Rev	Description	Date
4	Issued for DA	17.09.20
3	Revision	08.09.20
2	Revision	27.08.20
1	Issued to Client	24.08.20

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Checked by	
Sheet Size	A1

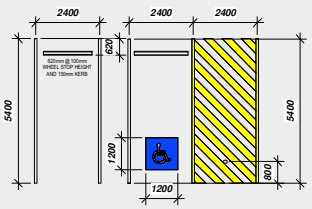
Drawing

DEMOLITION PLAN

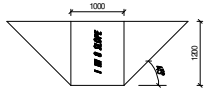
Job No:	Issue:	No:
BC0203 4		**01**

PARKING DETAILS:

OFF STREET CAR PARKING TO COMPLY WITH AS 2890.1 - 2004
DISABILITY CAR PARKING TO COMPLY WITH A S2890.6 - 2009
BICYCLE PARKING FACILITIES TO AS2890.3 1993



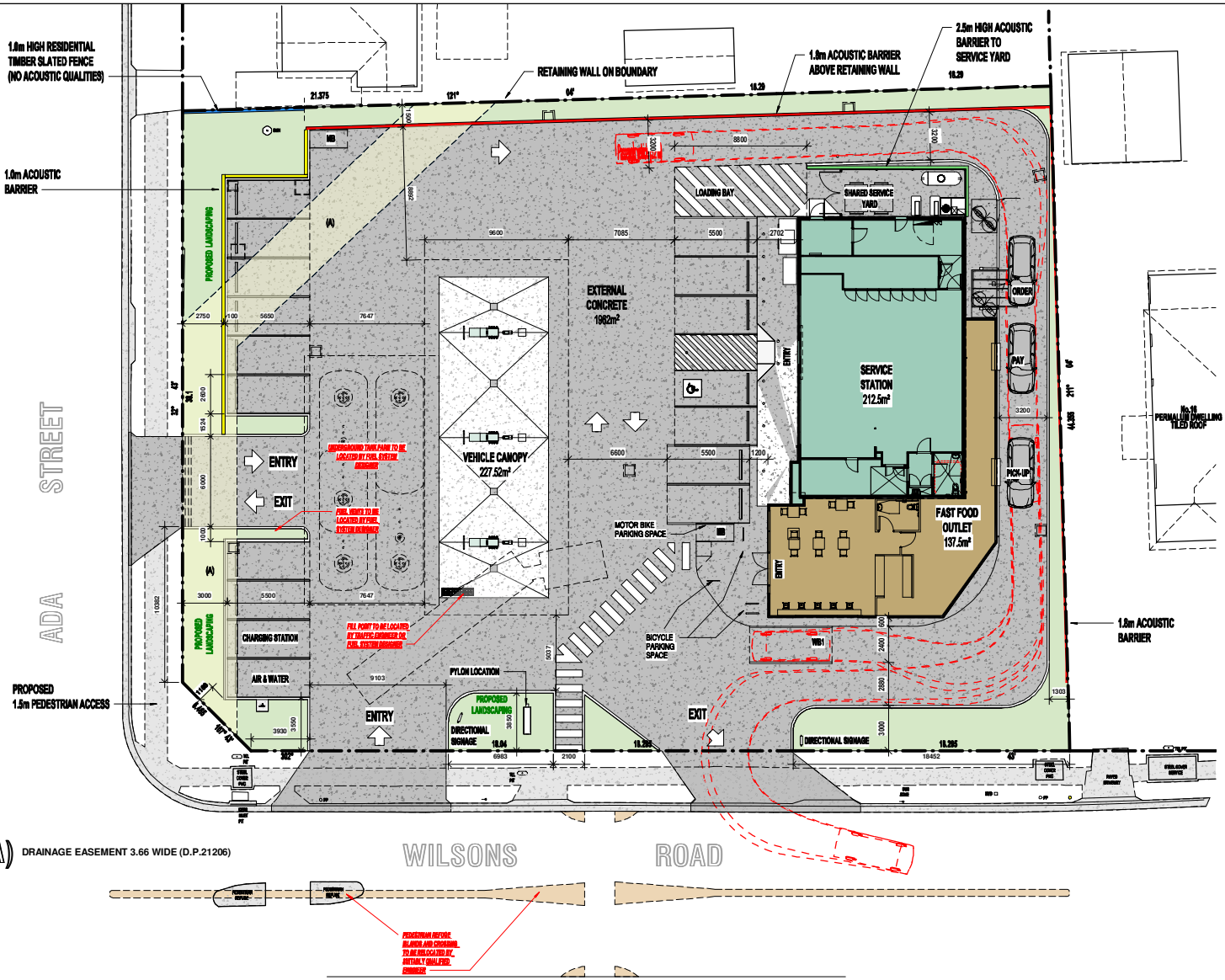
ACCESS AND MOBILITY



SITE DETAILS

ZONING	B2
SITE AREA:	2529.2m²
BUILDING AREAS: 14% OF SITE AREA	
FAST FOOD BUILDING	137.5m²
SERVICE STATION BUILDING	212.5m²
CANOPY STRUCTURE	227.52m²
RETAIL FLOOR AREA: 103.9m²	
CAR PARKS:	17 Parks
BIKE PARKS (Racks):	7 Parks
MOTORBIKE PARKING:	2 Parks

Off street car parking to comply with AS 2890.1 - 2004
Disability car parking to comply with AS2890.6 - 2009
Bicycle parking facilities to AS2890.3 1993



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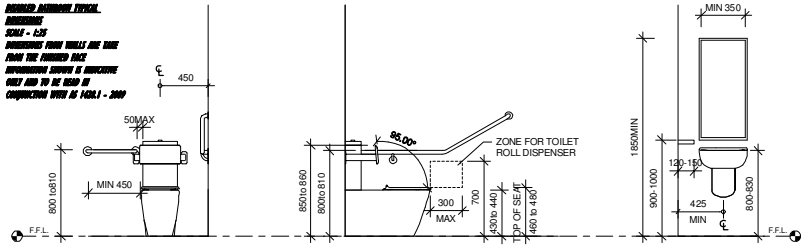
Checked by	
Sheet Size	A1

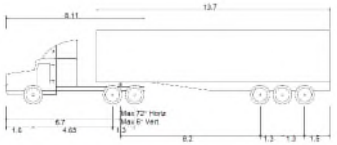
Drawing

SITE LAYOUT PLAN

Job No:	Issue:	No:
BC020319		02

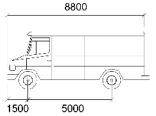
ACCESS AND MOBILITY





Prime mover and semi-trailer (19 m)

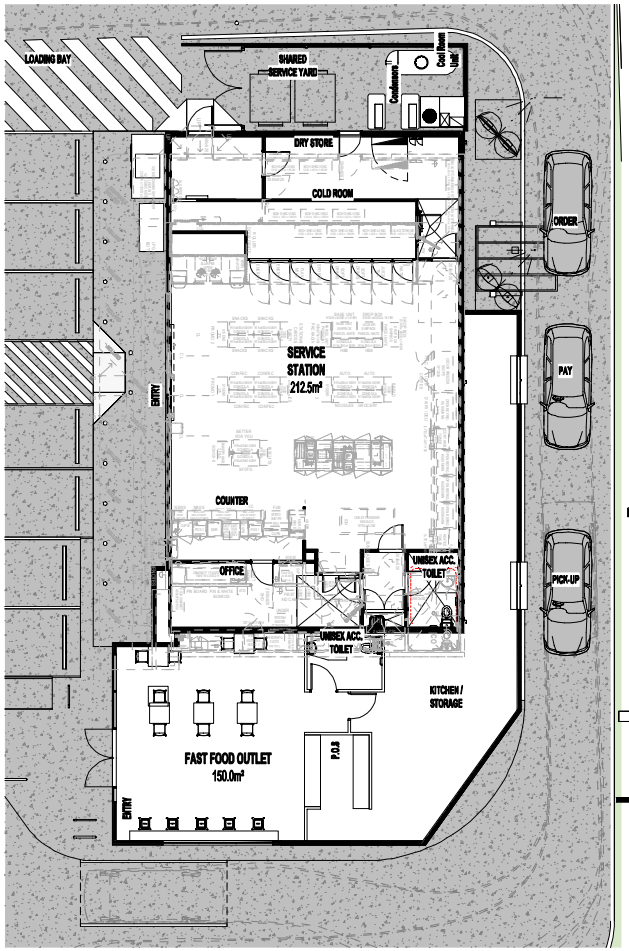
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.540m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



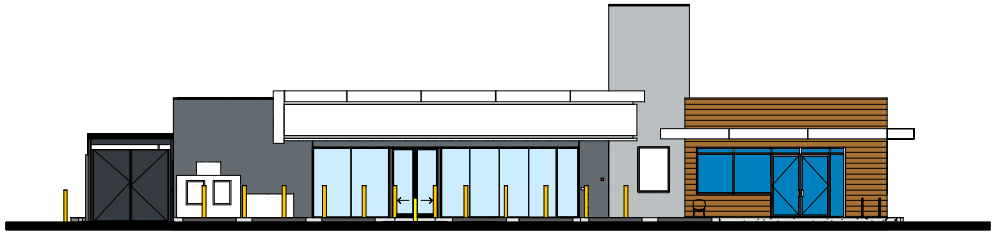
SERVICE VEHICLE

Width	: 2500mm
Track	: 2500
Lock to Lock Time	: 6.0
Steering Angle	: 38.7

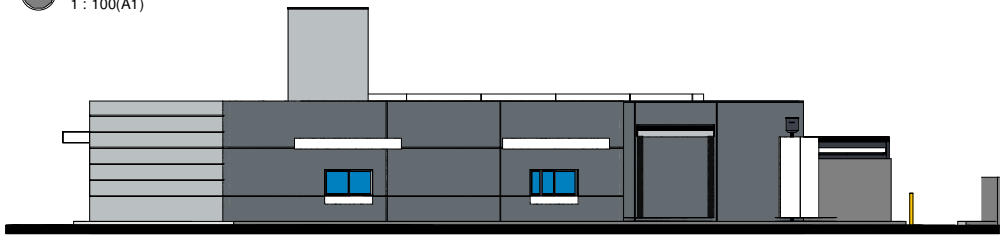
NOTE:
FINISHED GROUND & FLOOR LEVELS AND RETAINING WALLS ARE TO BE READ IN CONJUNCTION WITH CIVIL ENGINEERING DRAWINGS.



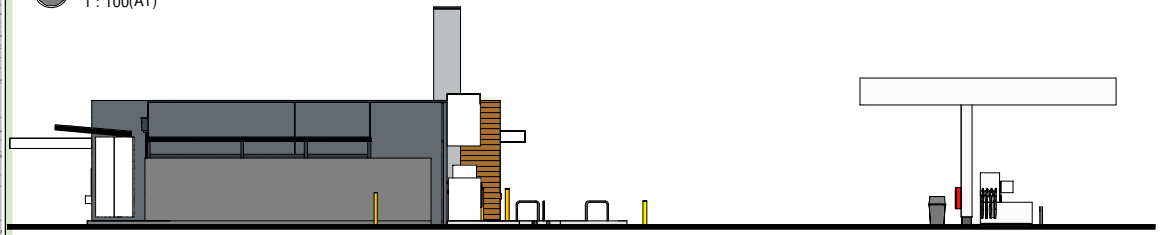
Building Layout Plan
1 : 100(A1)



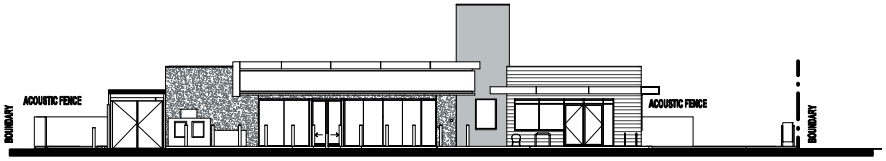
North-West Elevation
1 : 100(A1)



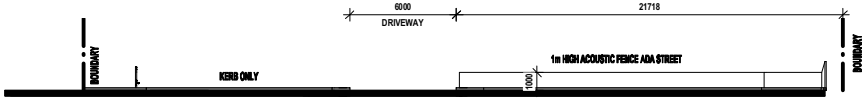
South-East Elevation
1 : 100(A1)



North- East Elevation
1 : 100(A1)



North-West Sectional Elevation
1 : 150 (A1)



South-East Sectional Elevation
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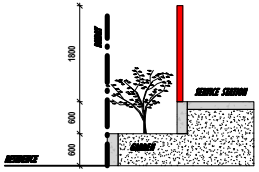
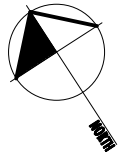


TYP Northern Section Garden and Retaining
1 : 50 (A1)

South-West Elevation
1 : 100(A1)



NOTE:

- FINISHED GROUND & FLOOR LEVELS AND RETAINING WALLS ARE TO BE READ IN CONJUNCTION WITH CIVIL NGINEERING DRAWINGS.
- ALL KITCHENS AND FOOD SERVICE FACILITIES TO COMPLY WITH AS 4674.
- SOLID HEBEL WALL CONSTRUCTION FOR FOOD PREP AREAS WILL BE DETERMINED AT CONSTRUCTION CERTIFICATE.
- ALL CIRCULATION, ACCESS, EGRESS OF LAYOUT TO COMPLY WITH AS 1428.1 - 2009

Rev	Description	Date
17	Additional Garden Nth	18.02.22
16	Fencing Rev	17.12.21
15	Driveway-Ped-Acoustic	17.12.21
12	Fence Rev	22.10.21
11	Fence Revs	25.05.21
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4	Issued for DA	17.09.20
3	Revision	08.09.20
2	Revision	27.08.20
1	Issued to Client	24.08.20

BROWN COMMERCIAL BUILDING
www.brownbuild.com.au
2 Elwall Close Beresfield, NSW 2322
PO Box 396 East Maitland NSW 2323
Ph: (02)4966 0218

Client

Mt Hutton LF Pty Ltd

Project

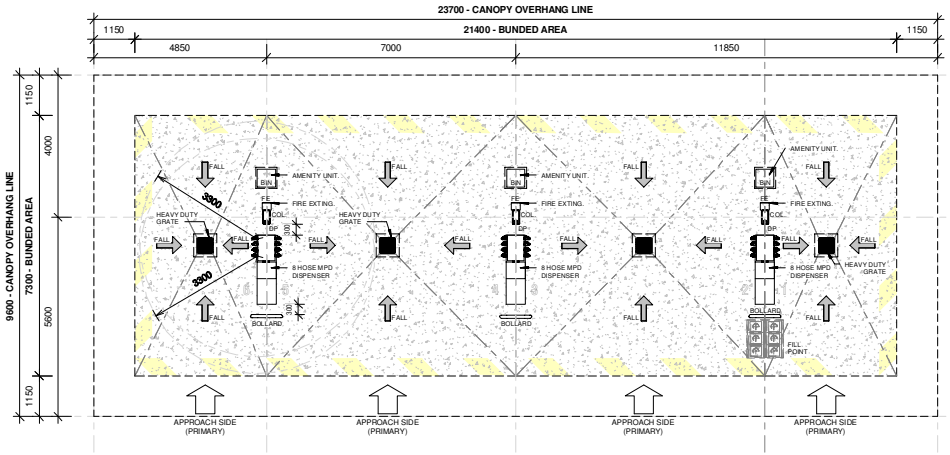
Service Station and Take Away Food

Location:	
Lot:	1-3
No:	10-14
Street:	Wilsons Road
Suburb:	Mount Hutton
DP:	21206
Scale	As indicated
Drawn by	
Checked by	
Sheet Size	A1

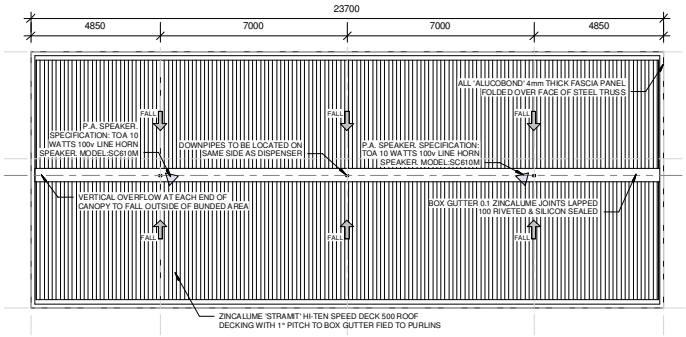
Drawing

BUILDING PLANS

Job No:	Issue:	No:
BC020317		03



CANOPY FLOOR PLAN
1 : 75 (A1)



CANOPY ROOF PLAN
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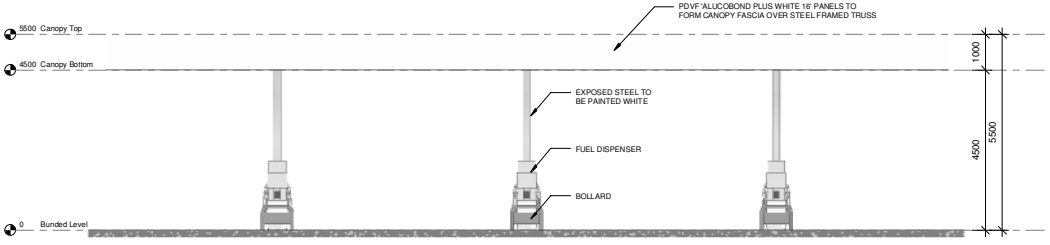
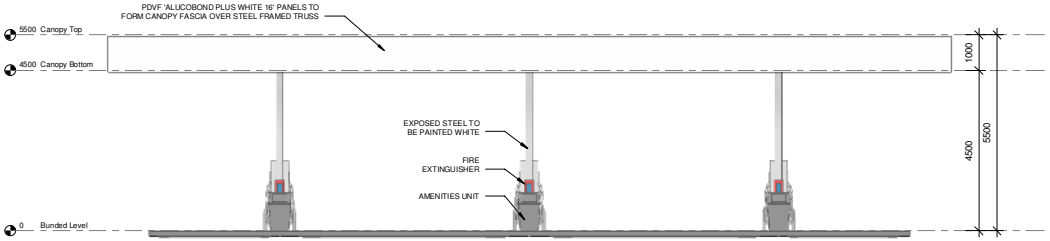
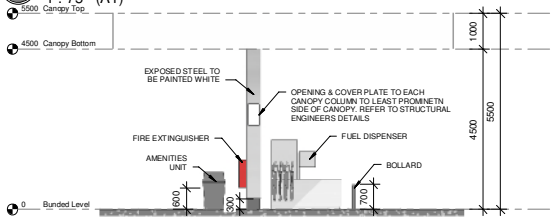


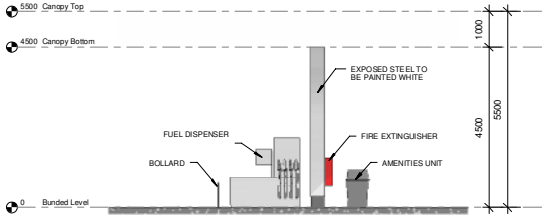
NORTH-WEST ELEVATION
1 : 75 (A1)



SOUTH-EAST ELEVATION
1 : 75 (A1)



NORTH-EAST ELEVATION
1 : 75 (A1)



SOUTH-WEST ELEVATION
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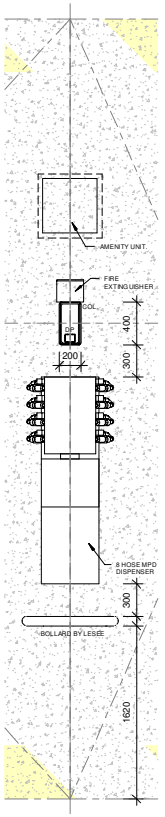
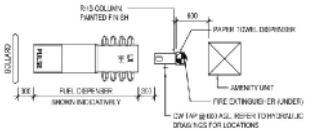


DISPENSER DETAIL
1 : 25 (A1)



SET-OUT DETAIL
1 : 50 (A1)

	Issued for DA	17.09.20
MDT	Revision	08.09.20
MDT	Revision	27.08.20
MDT	Issued to Client	24.08.20
Rev	Description	Date

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Client

Mt Hutton LF Pty Ltd

Project

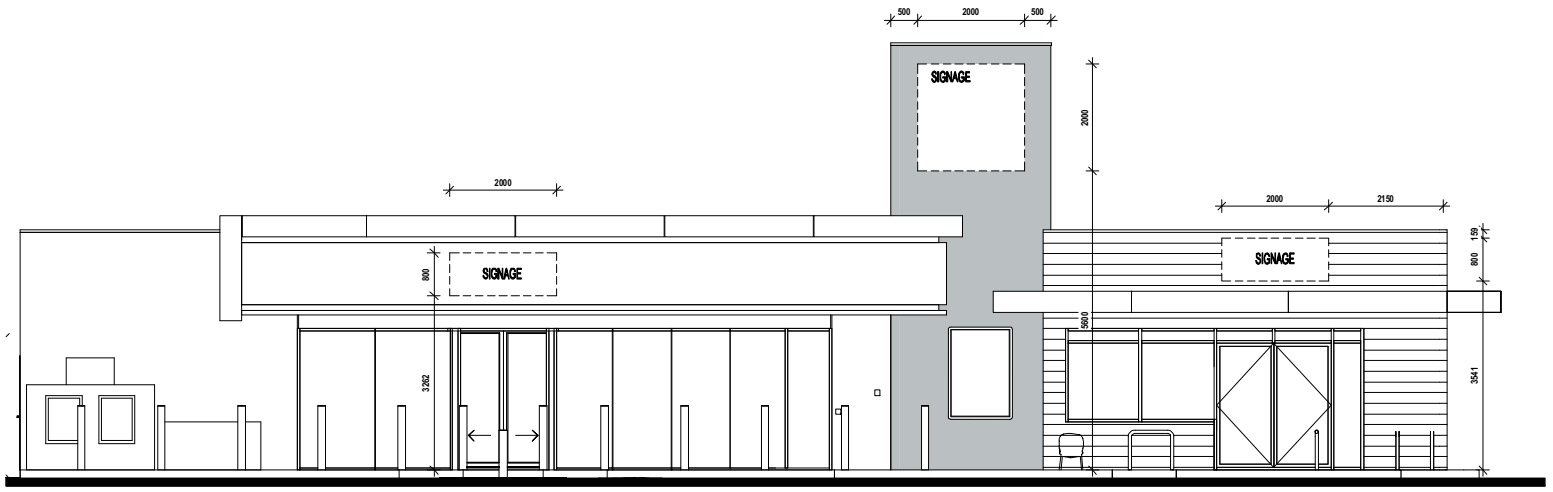
Sevice Station and Take Away Food

Location:	
Lot:	1-3
No:	10-14
Street:	Wilsons Road
Suburb:	Mount Hutton
DP:	21206
Scale	As indicated
Drawn by	BSIVA
Checked by	WB
Sheet Size	A1

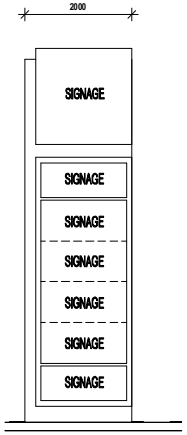
Drawing

CAR CANOPY FLOOR PLANS, ELEVATIONS AND DETAILS

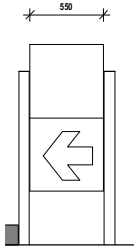
Job No:	Issue:	No:
BC0203 4		**04**



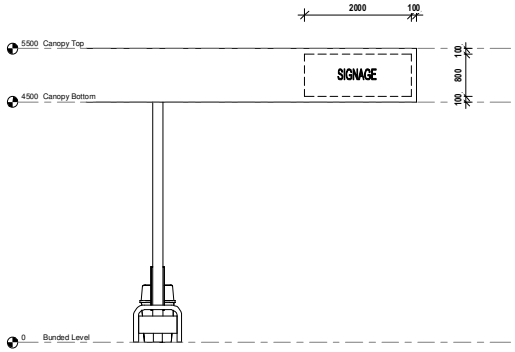
Building Signage
1 : 50 (A1)



Pylon Signage
1 : 50 (A1)



Direction Signage
1 : 20 (A1)



Canopy Signage
1 : 50 (A1)

Rev	Description	Date
7	Waiting Bay	02.03.21
4	Issued for DA	17.09.20
3	Revision	08.09.20
2	Revision	27.08.20

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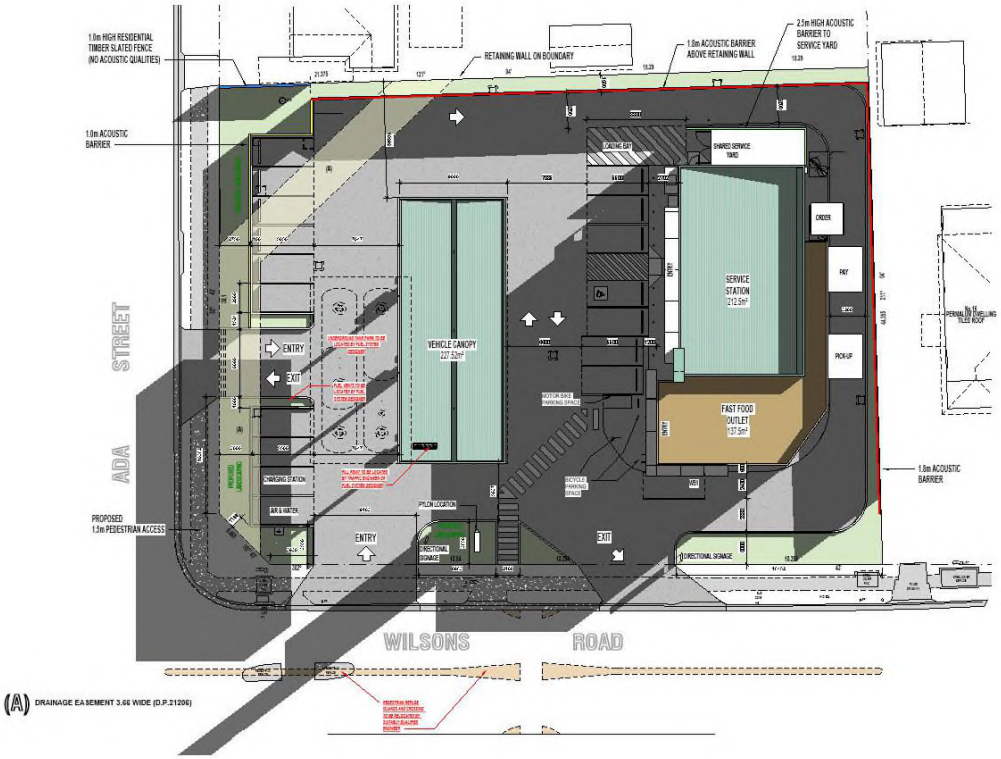
Checked by	
Sheet Size	A1

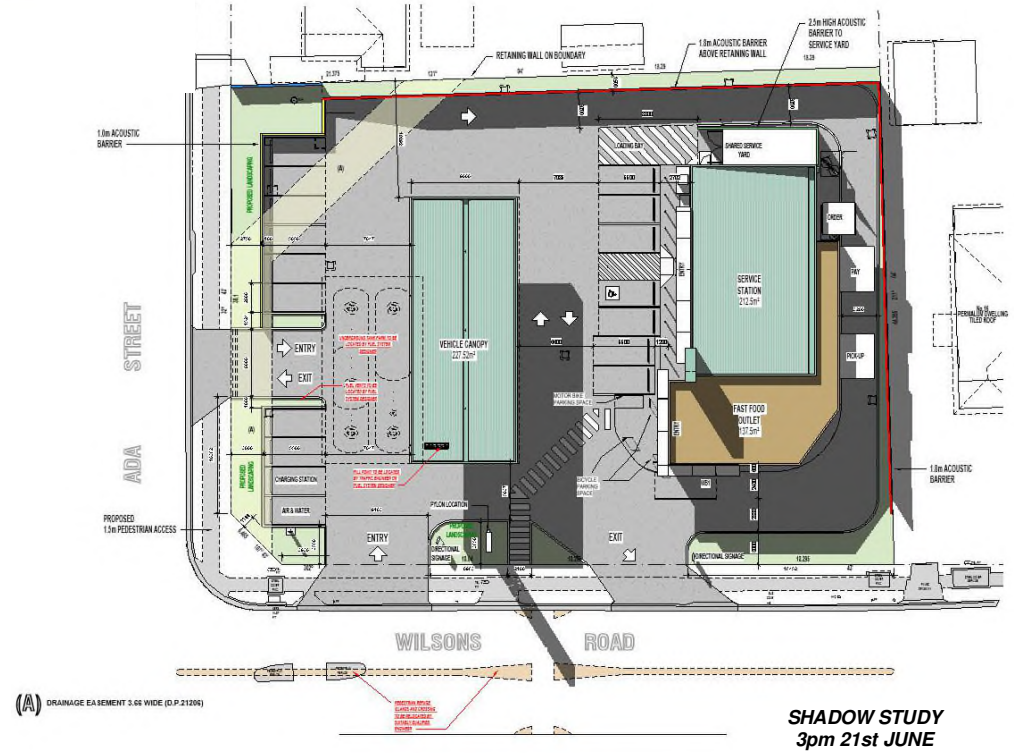
Drawing

SIGNAGE PLAN

Job No:	Issue:	No:
BC0203 7		**05**



SHADOW STUDY
9am 21st JUNE



SHADOW STUDY
3pm 21st JUNE

Rev	Description	Date
19	MB Space Rev	02.03.22
16	Fencing Rev	17.12.21
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Drawing

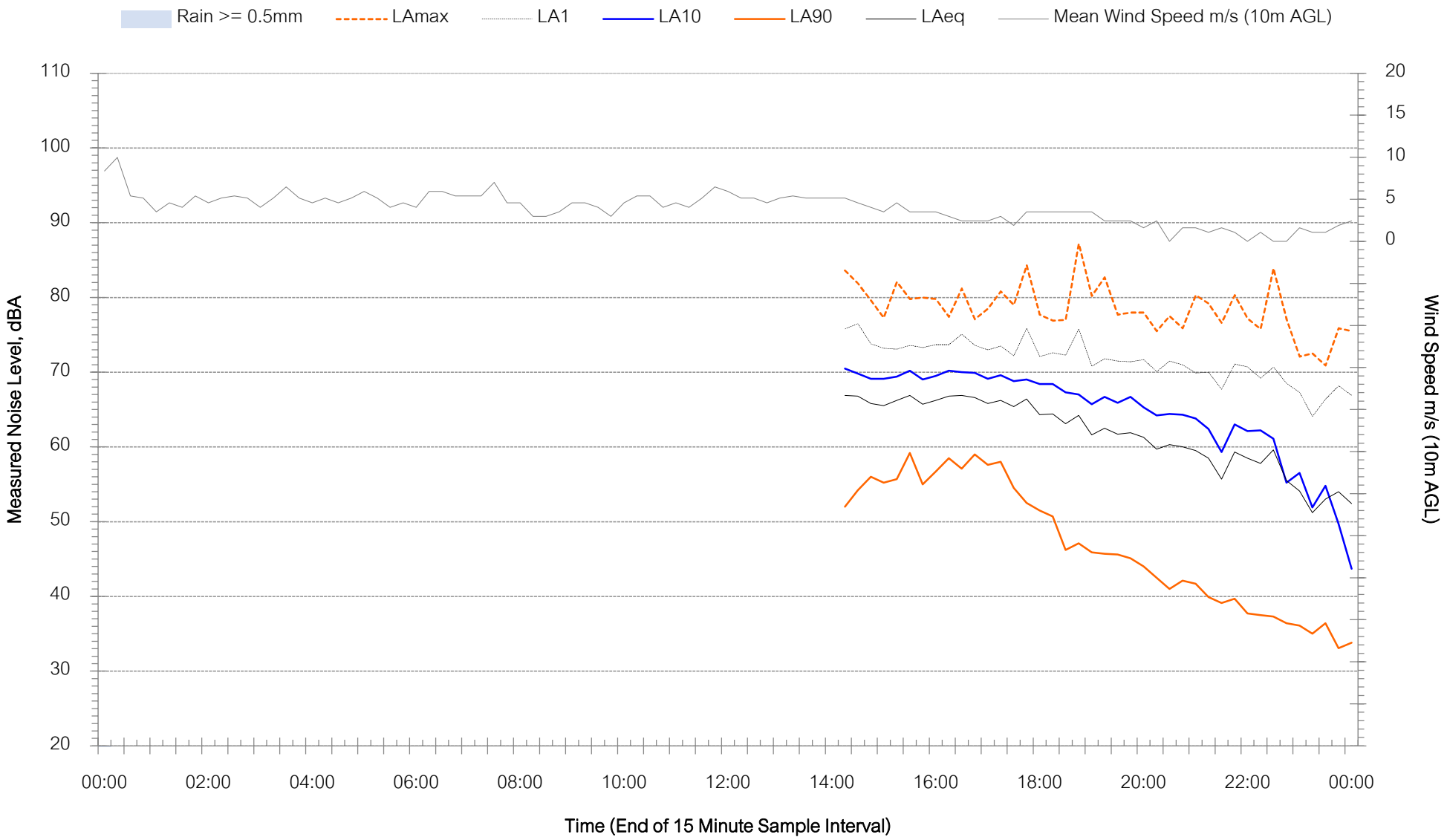
SHADOW DIAGRAMS

Job No:	Issue:	No:
BC020319		**06**

Appendix C – Unattended Noise Monitoring Charts

Background Noise Levels

Wilsons Road, Mt Huuton - Tuesday 11 August 2020

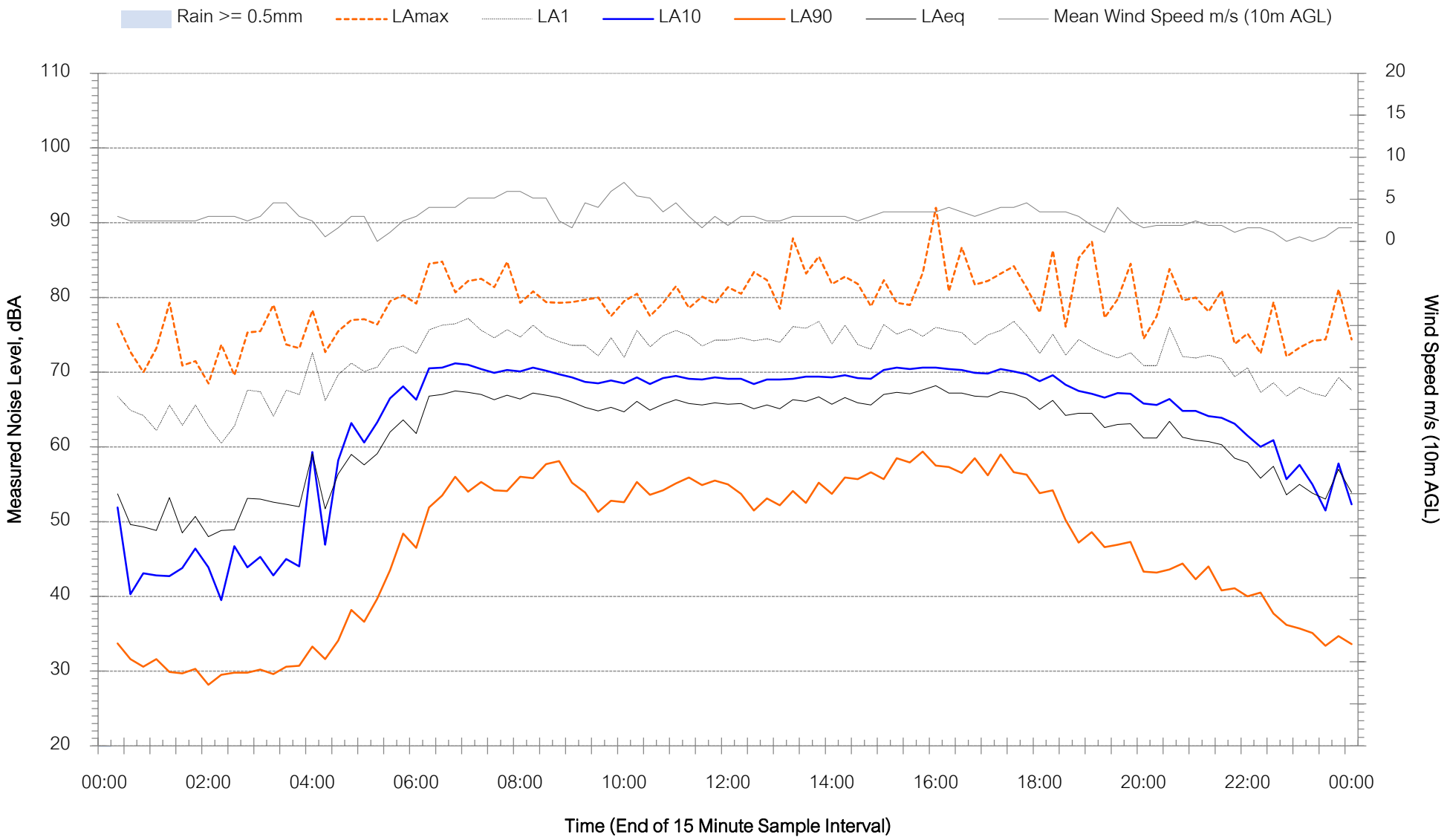


Background Noise Levels

Wilsons Road, Mt Huuton - Wednesday 12 August 2020

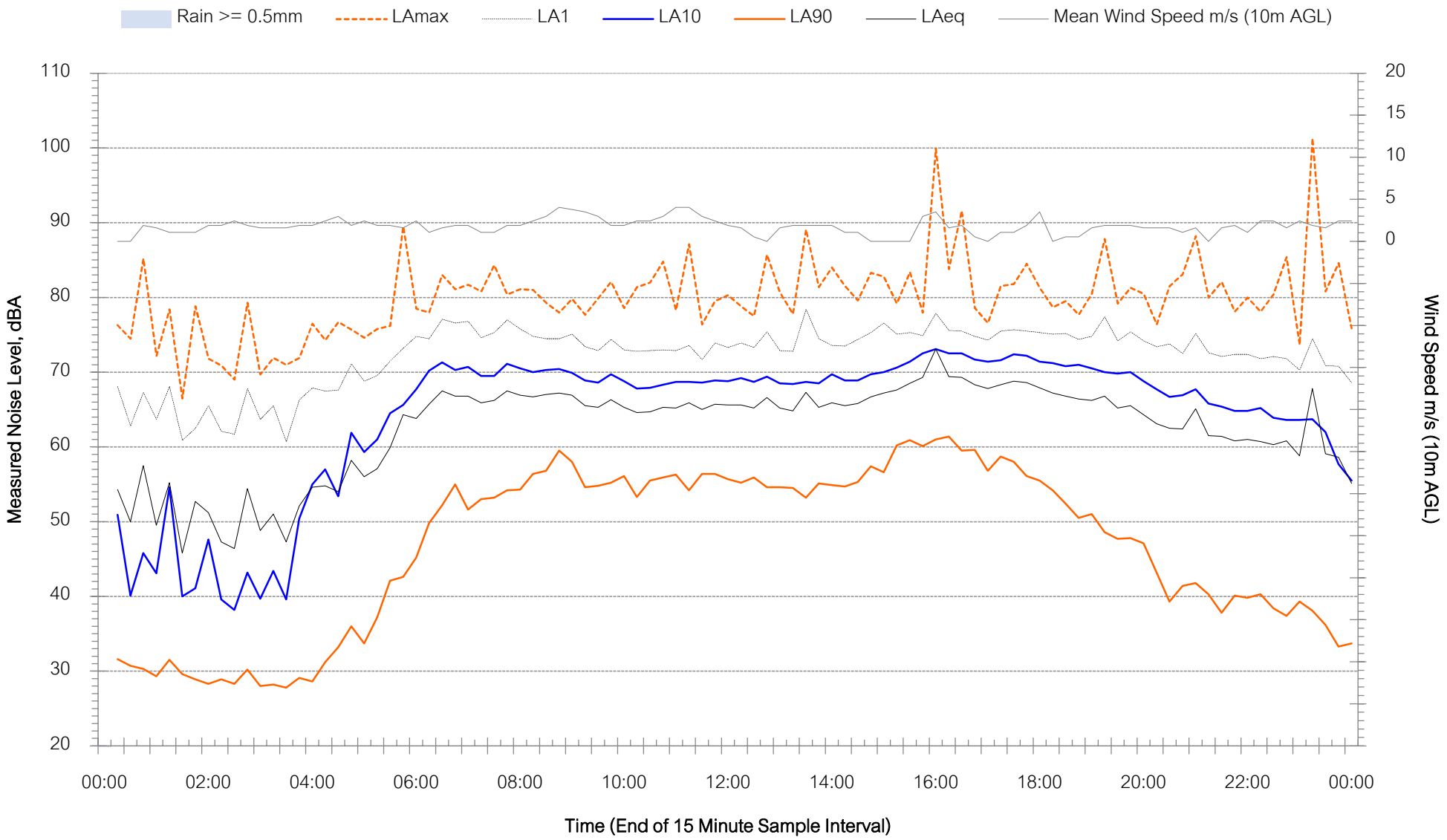
Background Noise Levels

Wilsons Road, Mt Huuton - Thursday 13 August 2020



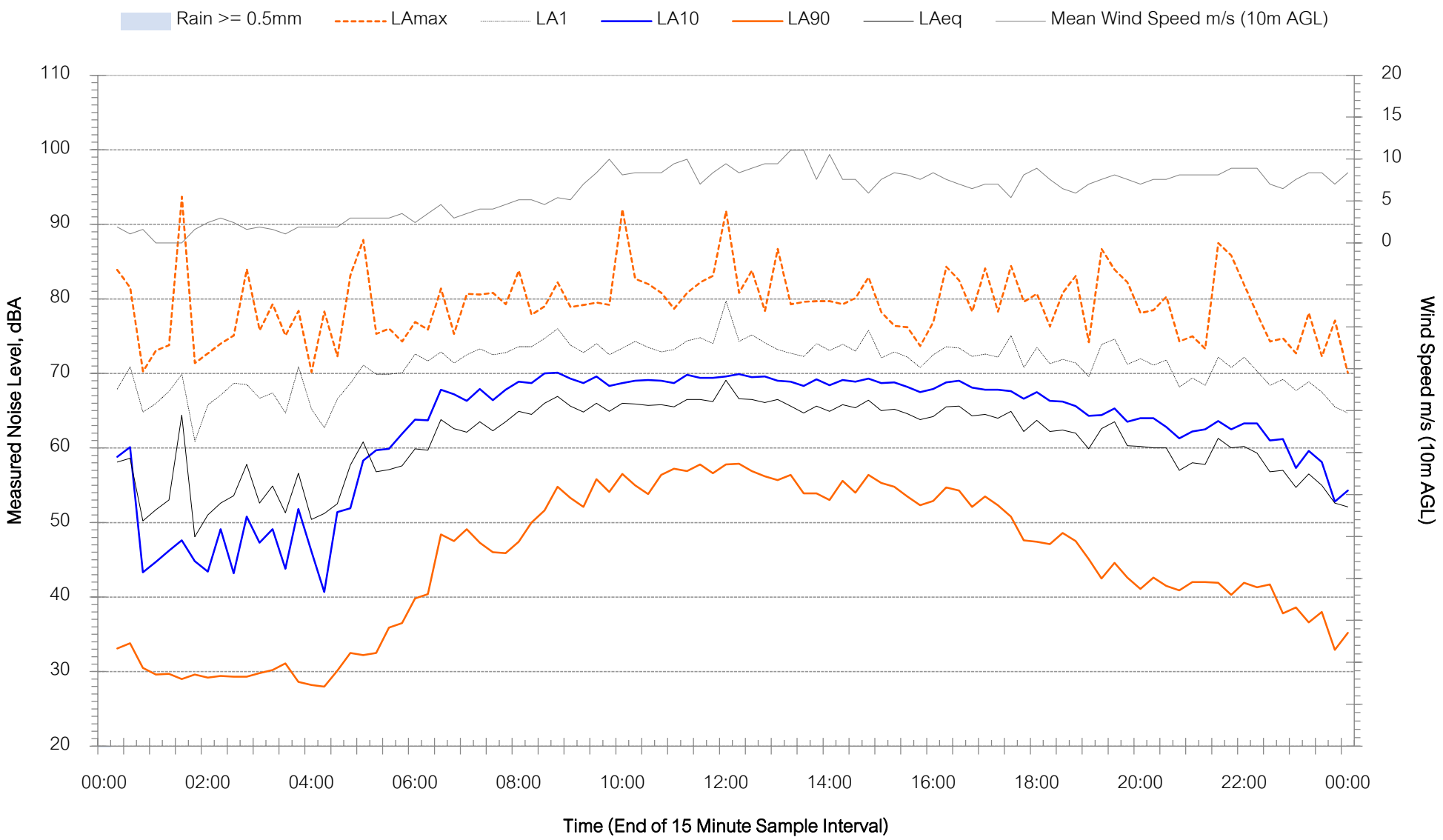
Background Noise Levels

Wilsons Road, Mt Huuton - Friday 14 August 2020



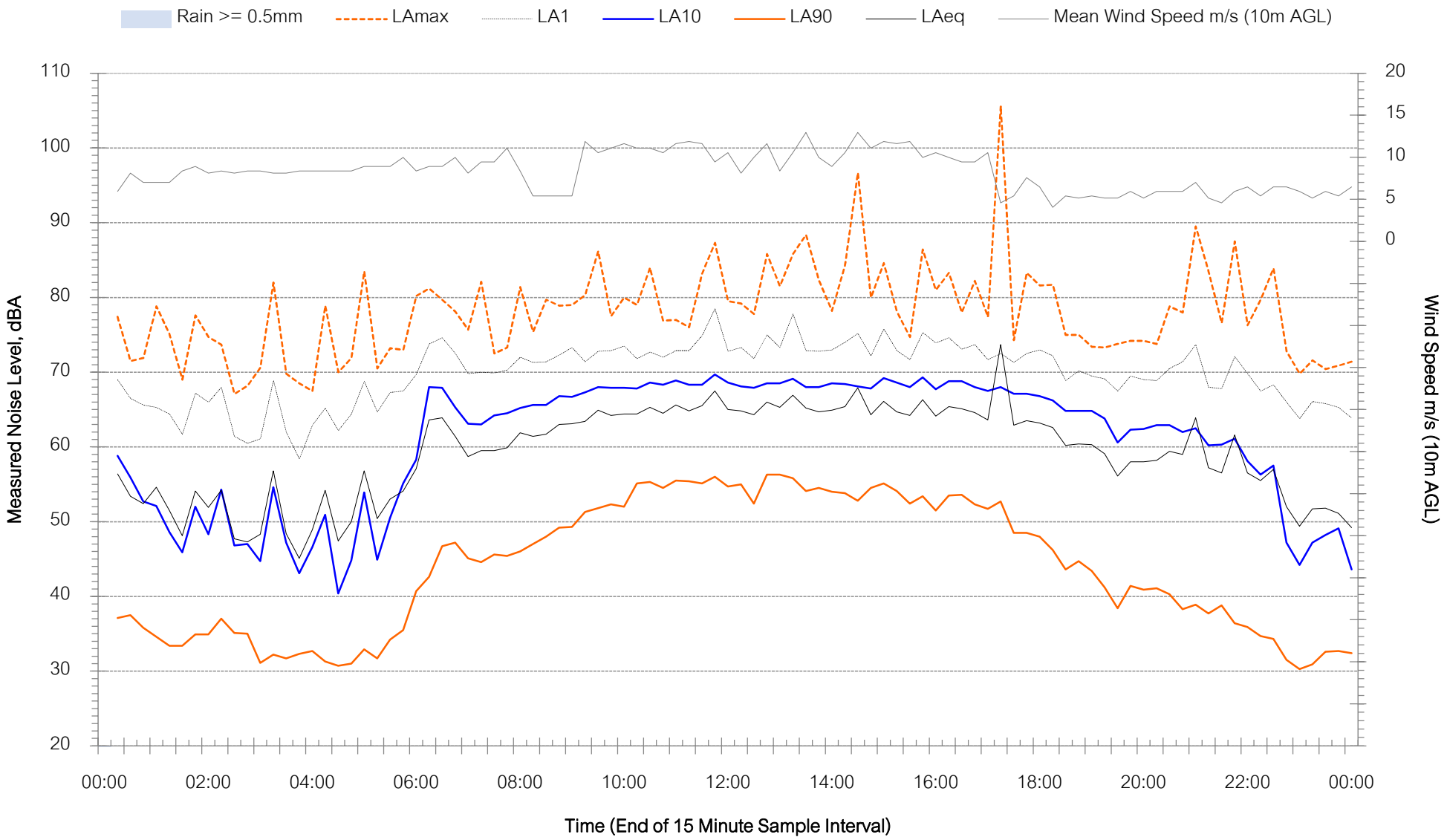
Background Noise Levels

Wilsons Road, Mt Huuton - Saturday 15 August 2020



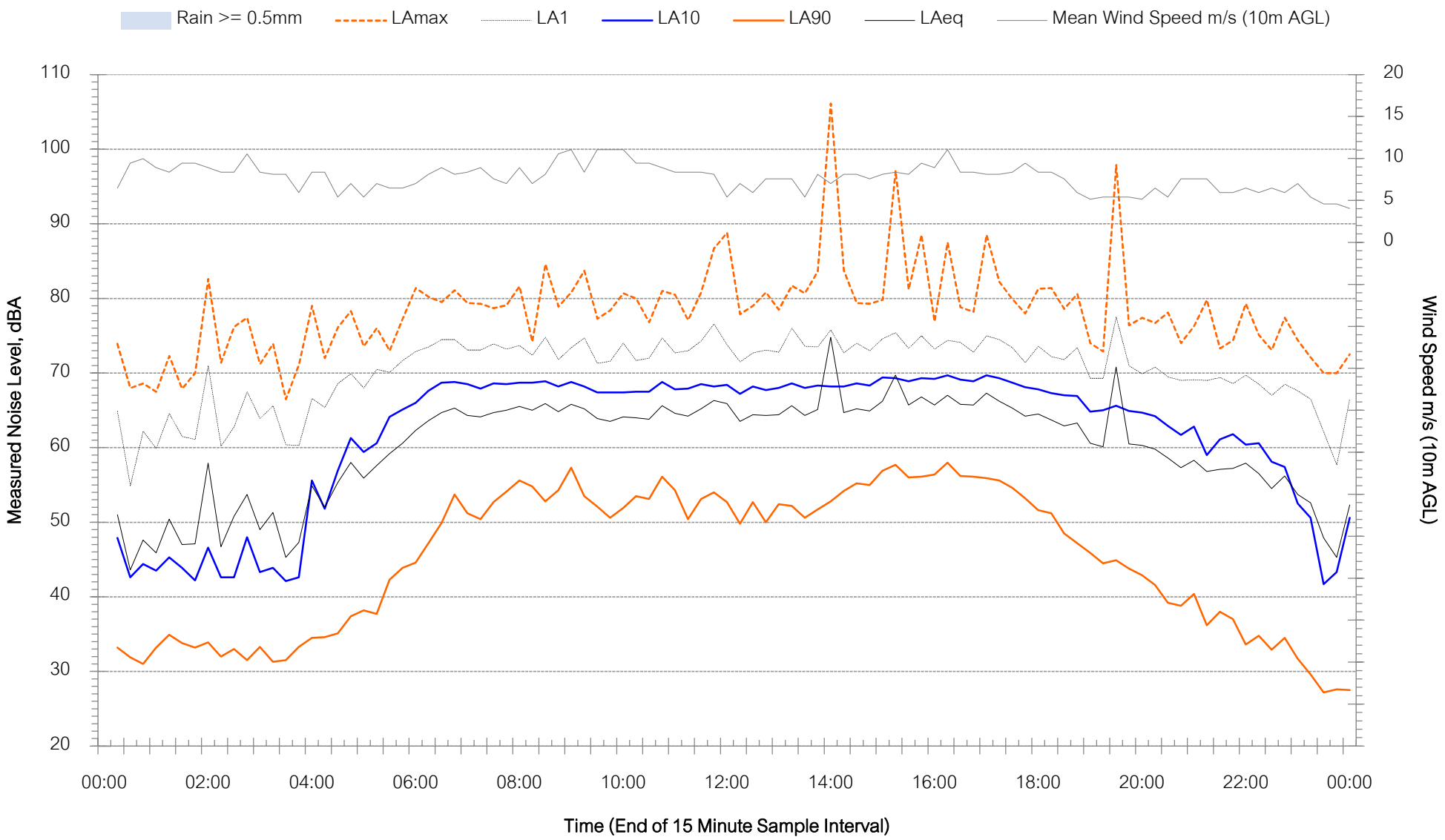
Background Noise Levels

Wilsons Road, Mt Huuton - Sunday 16 August 2020



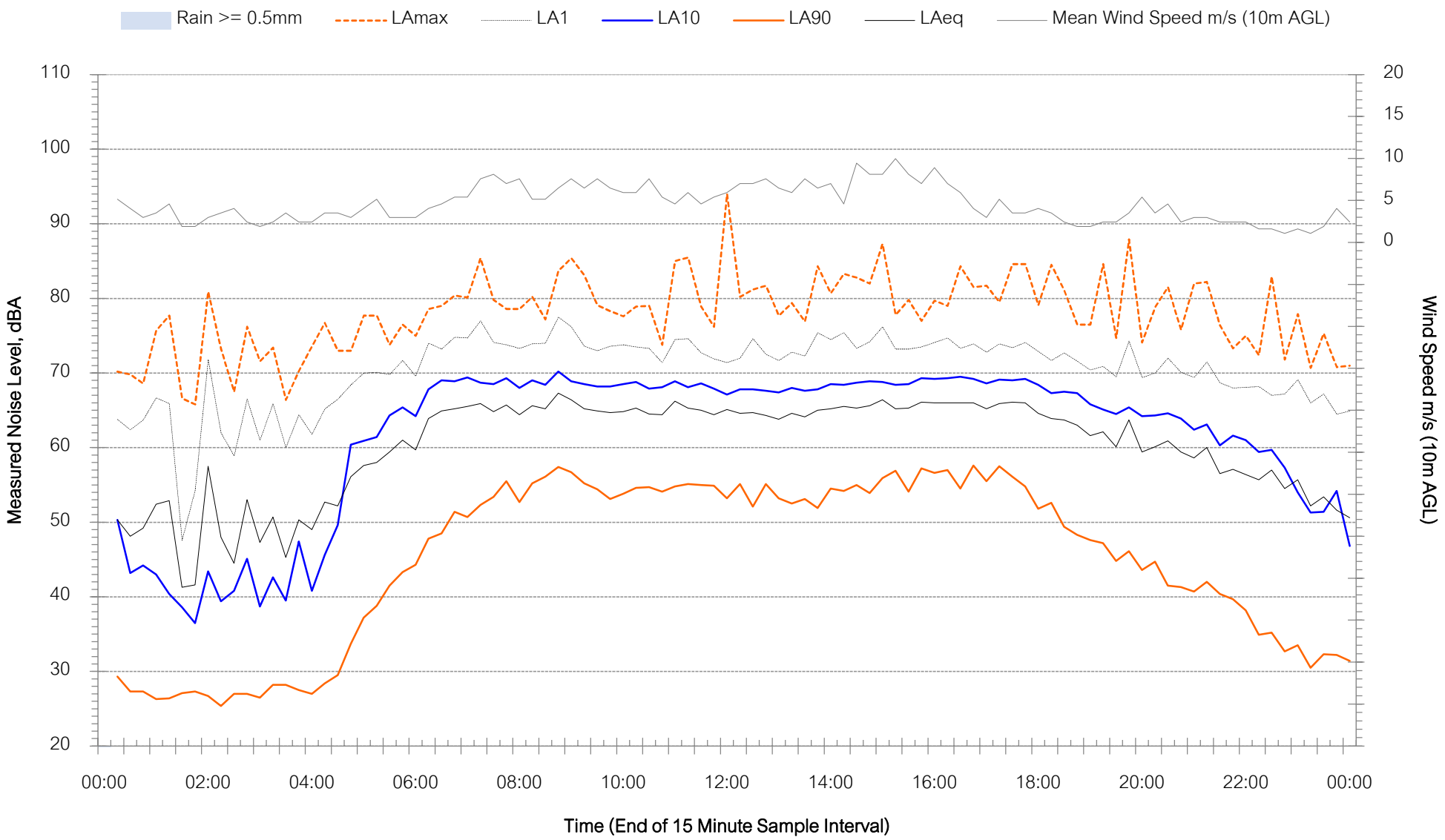
Background Noise Levels

Wilsons Road, Mt Huuton - Monday 17 August 2020



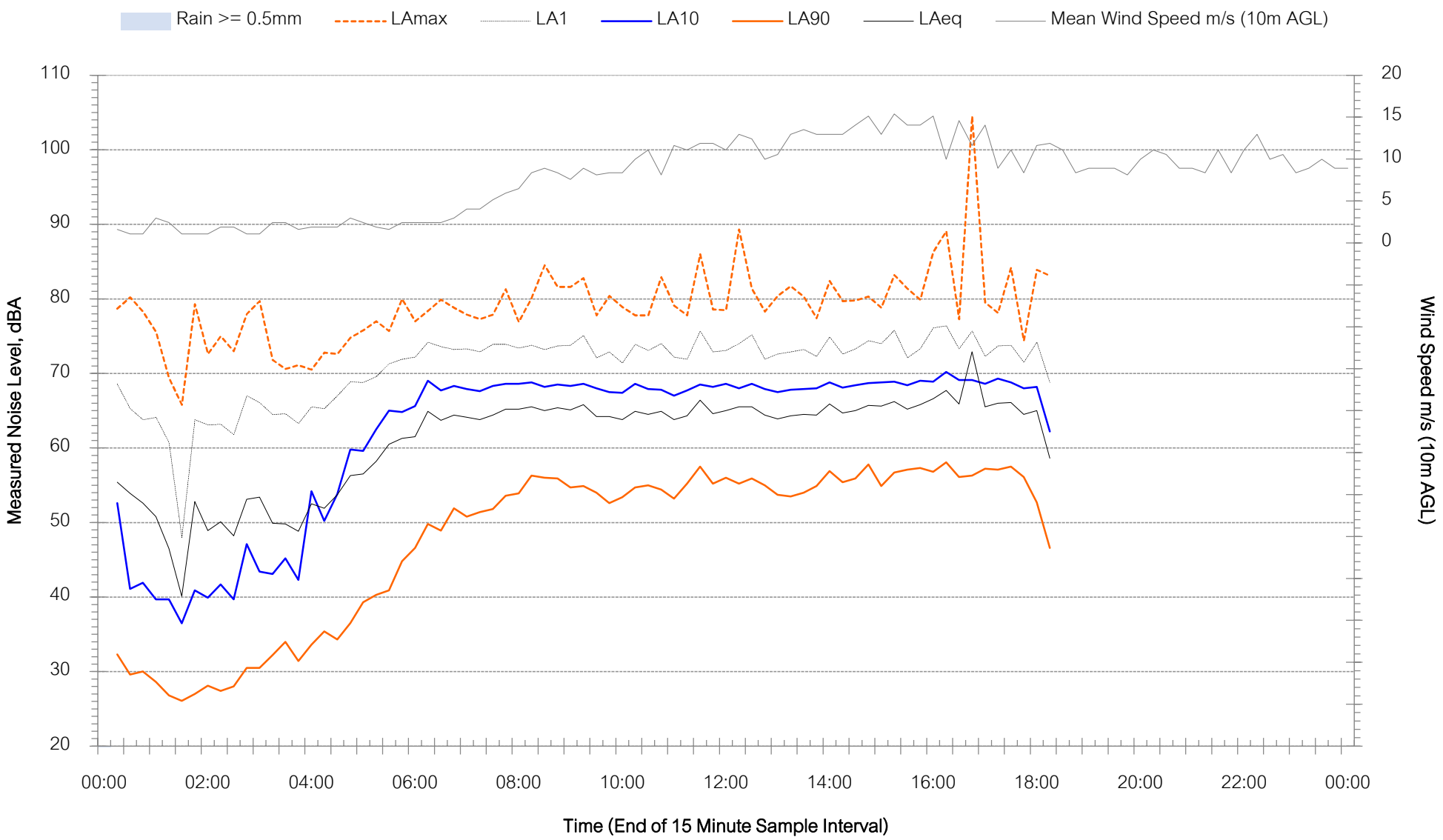
Background Noise Levels

Wilsons Road, Mt Huuton - Tuesday 18 August 2020



Background Noise Levels

Wilsons Road, Mt Huuton - Wednesday 19 August 2020



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MAC
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PLAN OF MANAGEMENT

Food and Drink Premises and Service Station
10-14 Wilsons Road, Mount Hutton

Prepared for:

Reynolds Property Pty Ltd

SLR Ref: 631.19460.00000-R01
Version No: -v0.1
March 2022

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BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Reynolds Property Pty Ltd (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

1 Introduction

This Plan of Management (POM) has been prepared for the proposed Service Station and Food and Drink Premises located at 10-14 Wilsons Road, Mount Hutton. The proposed development will recognise the need to ensure the safety and security of customers, staff, workers, residents and the greater community in which the proposal is located.

This POM will be generally complied with by the operators on the site and should be read in conjunction with the development approval issued for the site.

Objectives of the POM:

1. To demonstrate the proposed service station and food and drink premises commitment to the ongoing amenity of staff and adjoining and nearby properties;
2. To set out specific actions and procedures to manage patrons and the various operations at the site;
3. To establish a process to receive and remedy complaints; and
4. To promote communication between the proposed food and drink premises and the local community.

The POM is a dynamic document which can be updated to respond to changing procedures and practices as necessary.

All staff and management at the premises will be provided with a copy of the POM and briefed on the requirements as part of the employment induction process. A copy of the POM will be held on site at all times.

1.1 Purpose of Plan of Management

The purpose of this POM is to ensure compliance with all applicable Acts and Regulations. Further to this, the POM is consistent with the principles of Crime Prevention through Environmental Design (CPTED) as described in the Crime Prevention and the Assessment of Development Applications guideline prepared by the NSW Department of Planning and Environment.

The policies and procedures outlined in this POM will help to make the premises a safe, efficient and pleasant environment in which to work and visit. Additionally, the safety and security issues addressed in this POM have been devised to ensure the amenity of neighbouring properties is maintained at all times during the operation of the premises.

As part of the induction process, staff at each premises will be required to be familiar with this Management Plan.

2 Site Context

The site is located north of Wilsons Road and east of Ada Street which falls within the Lake Macquarie Local Government Area (LGA). The site comprises of three (3) parcels of land, generally known as 10, 12 and 14 Wilsons Street, Mount Hutton

The site is adjoined by single dwellings to the north west across Ada Street and both the north east and south east. A commercial strip of shops is located to the south west of the site across Wilsons Road and includes a mix of shops, offices, and food and drink premises. A Telstra telecommunications exchange is located to the south across Wilsons Road. Further abroad is Lake Macquarie Square shopping centre located approximately 135m to the south east. The shopping centre includes a broad range of commercial premises ranging department stores and tavern.

3 Site Operational Matters

Operational measures are to be implemented to ensure amenity is maintained for the surrounding area. Due to the nature of the development this includes management of noise impacts, the visual presentation of the site, and site maintenance.

3.1 Operational Hours

The proposed hours are provided within the table below:

Activity	Proposed Hours
Service Station Operation	24 hour
Food Tenancy Operation	6:00am – 12:00am (Midnight)
Drive-through operation	6:00am – 10:00pm
Light Vehicle Deliveries	24 hour
Heavy Vehicle Deliveries	7:00am – 6:00pm
Fuel Deliveries (Fuel Tanker)	7:00am – 8:00pm
Waste Collection	7:00am – 6:00pm

The majority of goods and fuel deliveries, as well as waste collection will occur during off-peak periods to limit disturbance to customers

3.2 Noise Management

Staff will be encouraged to minimise noise whilst on site and always report any negative behaviour. Reports of all noise complaints will be documented in a register and kept on site. Staff will be encouraged to ensure that customers behave in an appropriate manner whilst on the site and do not disturb the neighbourhood when exiting the premises late at night/ early morning. Signposting will be present to inform patrons to keep the noise to a minimum.

3.2.1 Instore Public Address System

The instore Public Address (PA) system is to only be used for site management purposes such as emergencies to direct patrons out of the building and towards any established safety area. No announcements regarding sales are to occur using the PA system.

3.3 Drive-through Operation

It is imperative to the operation to ensure the drive-through operation operates in a safe and orderly manner to ensure acoustic amenity and site safety is maintained. The following measures are to be implemented during operations:

Drive-through payment and goods pickup is only to occur at the designated drive-through windows located along the south western side of the building.

A designed drive-through waiting bay is afforded for goods delivery if delays occur.

3.4 Site Maintenance

3.4.1 Litter Management

Staff will ensure that the pedestrian areas, landscaped garden beds, hardstand areas, building entry and surrounds are kept clean and clear of litter. Bins will be located through-out the premises. This will help mitigate the potential litter impact upon the surrounding environment.

3.4.2 Cleaning

Staff will ensure as far as practical that the premises is kept in a clean and tidy condition both internally and externally. Cleaning of both internal and external areas will be undertaken by cleaning staff.

3.4.3 Graffiti

The premises will comply with common policy in relation to all graffiti. Any damage to property by way of graffiti will be removed from the site within 24 hours of being noticed.

3.5 Waste Management

Staff will separate operational waste and recyclables where possible. Waste and recycling bins will be clearly labelled and identifiable. In accordance with relevant health guidelines, bin areas will be cleaned by staff with protective gloves.

3.5.1 Dumpsters and Rubbish Receptacles

Rubbish from the site will be picked up or disposed of daily by store Staff and put into the rubbish bins.

The enclosure and/or gates to the receptacle area must not have significant damage or disrepair, and will be kept free of any accumulation of equipment, materials, or food/grease residue that contribute to pest harbourage.

Dumpsters and rubbish receptacles at the site will be kept clean, in good repair, covered and odour free.

The site will be kept clean and free of grease/food accumulation.

All car-park bins will be checked regularly and have the refuse removed to the waste area.

The frequency of collection of rubbish will be on an as needs basis and will occur during off-peak periods to limit disturbance to customers.

3.5.2 Property Cleanliness

The property must be free of accumulated litter and rubbish. All litter and rubbish from the previous day must be picked up prior to peak periods.

Throughout the day, litter and trash will be disposed of on a regular and frequent basis as needed during daylight hours. After nightfall, safety considerations may dictate a different litter pickup schedule.

All paved areas, including the drive-thru lane and pad, will be kept free of a significant accumulation of grease, oil, chewing gum, stains, straw wrappers and cigarette butts. All adjoining properties will attempt to be kept free of the food and drink premises identified litter.

All rubbish, waste, grease and water used to rinse outside, cleaning chemicals will be disposed of in a manner that is environmentally safe and in compliance with regulatory requirements. Do not dispose of cleaning products, or rinse cleaning products, into storm drains or other waterways. Use wet-vacuum or absorbent material to pick up rinse water or runoff.

4 Staff Training

Service Station

All staff will be trained in relevant security measures. Staff training days will be held on a regular basis to reinforce safety and security procedures for the service station. Training will ensure that in the event of a robbery, theft or anti-social behaviour, staff act in a manner to best protect customers, fellow staff members and themselves. Employees will be encouraged to report any suspicious activity or persons in and around the area to the Management and / or Local Police.

Take Away Food and Drink Premises

Team Members will be trained to know how and when to turn over complaints to Managers. If a Guest becomes irate and threatens someone, staff will be trained to:

- Ask the Guest to leave the premises;
- If the Guest refuses, as a last resort, consider calling the police; and
- A permanent file of these complaints/situations to be kept on site.

Team members will be trained to handle complaints by teaching them the LAST process – Listen, Apologise, Solve and Thank with all complaints attempted to be resolved at a store level. However, if needed, the complaint will be escalated to the district manager.

5 Safety and Security

The security and safety of employees and the general public are highly valued by management. The following management strategies will be implemented to ensure the utmost safety of patrons and staff.

5.1 Antisocial Behaviour

The safety measures required are based on individual premises locations and the type of clientele expected. The premises will take a zero tolerance to antisocial behaviour at the site and Police will be notified in the event of a serious incident.

The following are the safety measures which are to be put into place for the development:

- Having well illuminated store, car parking areas and drive-thru lanes (where applicable);
- Flood lights – all must be lit, functioning and replaced within 24 hours if not operating;
- Where applicable, drive thru order point lighting must be operating and lit at 500 lumens;
- Where applicable, drive thru lane lighting to be operational from dusk till dawn;
- Deterrent signage alerting patrons that the area is under video surveillance; and
- The requirement of security providers to act as a deterrent against antisocial behaviour will be reviewed upon the opening of the store.

5.2 Surveillance

Management will install CCTV surveillance cameras in and around the premises in strategic locations. All cameras will operate 24 hours a day. CCTV Cameras will remain in working condition at all times. If damage to CCTV Cameras occurs repairs will be undertaken as soon as practicable. CCTV footage of any security incident on the site will be copied and made available to NSW Police Service as required.

Management will also ensure that the coverage will be operated with due regard to the privacy and civil liberties of all persons within the operation.

Staff will be encouraged to assist with passive surveillance of all areas of the development by providing efficient reporting systems for any security or safety concerns on a 24-hour basis.

5.3 Lighting

All lighting on the site shall be designed so as not to cause a nuisance to adjoining properties or to motorists on nearby roads to minimise light overspill. Lighting shall comply with the *AS 4282:1997 Control of the obtrusive effect of outdoor lighting*.

External lighting will be provided around the building, under the fuel canopy, building entry and car park to enable clear vision and will be designed in such a manner to prevent concealment and shadowing. The standard of lighting will also serve to provide clear identification of activity using the high technology CCTV cameras proposed.

Broken light fixtures and bulbs within the premises and car park will be replaced within 24 hours where practical.

5.4 Wayfinding and Space Management

The entrance to each premises will be clearly identifiable from within the site and adjoining lands due to the site layout and design of each building. Furthermore, clearly identifiable signage will be installed directing patrons around the site.

Toilets for staff and customer use will be clearly sign posted.

5.5 Weapons

Weapons of any type i.e. knives, firearms will not be permitted at any time, unless in the hands of authorised security personnel or Police.

6 Incident Register

An incident register will be held on site at each tenancy. This will monitor any complaints and will be made available to NSW Police when requested. The frequency of incidents together with the respective response will be included in the regular site performance reviews to ensure the maintenance of acceptable standards.

Staff must not resist a robbery and are required call the NSW Police after the person(s) has left the building, at which time doors are locked. The premises must stop trading until emergency services arrive.

After a security incident, staff will complete the appropriate incident form and will be provided to Head Office with copies of the CCTV footage of the security incident.

Management will supervise all of the above practices and make sure these measures are adhered to.

6.1 First Aid

At all times a staff member proficient and appropriately certified in first aid qualification will be on duty to respond to a medical incident on the premises. Appropriate equipment such as a first aid kit will be available on site.

7 Management of Patrons

7.1 Conditions of sale

Intoxicated and underage persons will not be served alcohol at the licensed premises. The premises will adopt a zero-tolerance approach to antisocial behaviour at the premises.

7.2 Complaints

Team members are trained to know how and when to turn over complaints to managers.

If a guest becomes irate and threatens someone …

1. Ask the Guest to leave the premises;
2. If the Guest refuses, as a last resort, consider calling the police;
3. It is recommended that each premises keeps a permanent file of these complaints/situations.

Team Members will be trained to handle complaints by teaching them the LAST process – Listen, Apologise, Solve and Thank.

The following procedure is used to manage any complaints or issues that are raised by external parties:

Public

Any issues that are raised by members of the Public are:

- Recorded in the premises diary noting the day time and address of the complainant and dealt with by the shift manager/premises manager;
- The complaint is then entered into a database where it is logged and it is required to be addressed within the 72 hour period;
- If the complaint cannot be resolved at this level, the district manager and/or state manager will then be consulted; and
- All complaints are reviewed with all managers at the weekly managers meeting.

Issues are raised as an incident report or "Complaints Form" and are addressed by premises management through the Incident Reporting procedure and a copy of the Incident report with corrective action sent to the District Manager and OHS Manager.

State Health & Safety Regulatory Authority

Any notice / document / request that are raised by a State Health & Safety Regulatory Authority Inspector must be immediately communicated to the OHS Manager who will then ensure that all other appropriate personnel are informed. The OHS Manager will then develop an Action Plan / Actions with responsibilities to address the issue raised.

8 Consultation

The premises operators are committed to ongoing consultation with adjoining property owners, Police and Council to foster a better understanding of relevant operational issues that may arise at the site and would be available to be contacted to discuss potential issues as they may arise.

Ongoing review of this document may be undertaken to ensure that the POM remains relevant to the operation of each premises and that issues that arise can be successfully managed into the future.

9 Conclusion

Compliance with the POM will ensure the proposal remains a safe and welcoming site to visit.

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