

CIVIL ENGINEERING DESIGN FOR DEVELOPMENT APPLICATION

<u>DRAWING No.</u>	<u>DRAWING TITLE</u>
02361__100	COVER SHEET, DRAWING INDEX, GENERAL NOTES AND LOCALITY SKETCH
02361__110	SITE LAYOUT PLAN & LEGEND
02361__201	GENERAL ARRANGEMENT PLAN - SHEET 1
02361__202	GENERAL ARRANGEMENT PLAN - SHEET 2
02361__203	GENERAL ARRANGEMENT PLAN - SHEET 3
02361__204	GENERAL ARRANGEMENT PLAN - SHEET 4
02361__351	SITE SECTIONS
02361__701	SEDIMENT AND EROSION CONTROL PLAN AND DETAILS

1. ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION.
2. THE CONSTRUCTOR SHALL PREPARE A DILAPIDATION REPORT FOR THE EXISTING INFRASTRUCTURE WITHIN THE ROAD RESERVE, INCLUDING BUT NOT LIMITED TO KERBS, GUTTERS, FOOTPATHS, VEHICULAR CROSSINGS, STREET SIGNS, SERVICE FITTING COVERS, ETC.
3. ANY CHANGES MADE BY THE CONSTRUCTOR TO ANY LEVEL, DIMENSION, LOCATION, POSITION, ALIGNMENT ETC., OF ANY OF THE WORKS SHOWN ON THE DRAWINGS WITHOUT THE WRITTEN CONSENT OF C&M CONSULTING ENGINEERS PTY. LTD. AND OR THE PRINCIPAL CERTIFYING AUTHORITY IS DONE SO AT THE CONSTRUCTORS OWN RISK.
4. THE CONSTRUCTOR SHALL ALLOW TO LIAISE WITH AND PROVIDE SUFFICIENT NOTICE TO THE PRINCIPAL CERTIFYING AUTHORITY TO ENSURE THAT ALL WORKS ARE INSPECTED TO ENABLE COMPLIANCE CERTIFICATES TO BE ISSUED THROUGHOUT THE CONSTRUCTION PERIOD. THE CONSTRUCTOR SHALL LIAISE WITH THE PRINCIPAL CERTIFYING AUTHORITY PRIOR TO ANY CONSTRUCTION WORKS COMMENCING AND PREPARE AN INSPECTION AND TEST PLAN WITH A MUTUALLY AGREED WITNESS AND HOLD POINTS FOR THE CONSTRUCTION WORKS.
5. IF THE PRINCIPAL CERTIFYING AUTHORITY IS NOT PENRITH CITY COUNCIL, THEN THE CONSTRUCTOR MUST CONTACT PENRITH CITY COUNCIL'S WORKS DIVISION TO ENABLE THEIR INSPECTION OF ALL WORKS (INCLUDING EROSION AND SEDIMENT CONTROL MEASURES) WITHIN THE ROAD RESERVE AREA.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL ACCESS TO THE SITE. THE ACCESS SHALL BE ALL WEATHER SAFE ACCESS TO THE CONTRACTOR'S SITE FACILITIES AT ALL TIMES FOR THE DURATION OF THE CONTRACT.
7. A TEMPORARY HOARDING OR FENCE OF MINIMUM 1.5m HIGH IS TO BE PROVIDED AROUND THE SITE TO PROTECT THE PUBLIC PRIOR TO COMMENCEMENT OF WORKS. HOARDINGS OR FENCES ARE TO BE STRUCTURALLY ADEQUATE. THE CONTRACTOR SHALL OBTAIN AN APPROVAL FROM COUNCIL PRIOR TO ERECTING THE HOARDING OR FENCE.
8. ALL NEW WORKS SHALL MAKE A SMOOTH CONNECTION WITH ANY FORMATIONS, STRUCTURES, ETC.
9. ALL ALTERATIONS AND/OR ADDITIONS TO EXISTING WORK, THE CONTRACTOR SHALL VERIFY THE DIMENSIONS OF THE EXISTING WORK BEFORE PROCEEDING AND NOTIFY THE SUPERINTENDENT OF DISCREPANCIES.
10. THE WORKS SHALL BE CONSTRUCTED IN SUCH A MANNER THAT THERE IS MINIMUM DISTURBANCE TO EXISTING TREES AND VEGETATION.
11. THE PUBLIC FOOTWAY AND ROADWAY FRONTING THE SITE SHALL BE MAINTAINED IN A SAFE AND UNOBSTRUCTED MANNER AT ALL TIMES DURING THE CONSTRUCTION WORKS.
12. THE CONSTRUCTOR SHALL BE RESPONSIBLE FOR REPAIRING TO THE SATISFACTION OF THE ASSET OWNER, ANY DAMAGE CAUSED TO ANY EXISTING INFRASTRUCTURE WITHIN THE ROAD RESERVE, INCLUDING BUT NOT LIMITED TO KERBS, GUTTERS, FOOTPATHS, VEHICULAR CROSSINGS, STREET SIGNS, SERVICE FITTING COVERS, ETC.
13. THE SITE SHALL BE KEPT IN A TIDY CONDITION AT ALL TIMES. LITTER RUBBISH AND BUILDING RUBBLE SHALL BE PLACED IN CONTAINERS OR BINS AND REGULARLY REMOVED FROM SITE AS REQUIRED.

1. STORMWATER DESIGN CRITERIA:
MINOR STORM ARI: 10 YEARS
MAJOR STORM ARI: 100 YEARS
IFD DATA LOCALITY: PENRITH
2. PIPES DN375 AND LARGER TO BE STEEL REINFORCED CONCRETE PIPES CLASS '2' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS.
3. PIPES DN300 AND SMALLER SHALL BE GRADE SH (SEWER GRADE) uPVC WITH RUBBER RING JOINTS.
4. EQUIVALENT STRENGTH FIBRE REINFORCED CONCRETE PIPES MAY BE USED UP TO DN450.
5. PIPES FOR SUB-SOIL DRAINS SHALL BE SLOTTED 100MM DIAMETER CLASS 1000 WRAPPED IN GEOFABRIC, COMPLYING WITH THE REQUIREMENTS OF AS2439.
6. PRECAST PITS, WHERE ALLOWED, AND THE INSITU BASE SHALL COMPLY WITH THE REQUIREMENT OF THE MANUFACTURER.
7. GEOFABRIC FILTER SHALL BE PERMEABLE, NON-WOVEN FABRIC MANUFACTURED FROM A POLYMER SUCH AS POLYPROPYLENE OR POLYESTER OF MASS NOT LESS THAN 135G/M2.
8. ALL PIPES SHALL BE PLACED CENTRALLY WITHIN THE TRENCH WITH EQUAL CLEARANCE EACH SIDE.
9. ALL PIPES SHALL BE BACKFILLED WITH GRANULAR MATERIAL SUCH AS QUARRY FINES OR COARSE RIVER SAND TO A MINIMUM OF 150MM ABOVE THE PIPE. THE GRANULAR MATERIAL SHALL BE PLACED IN 150MM THICK MAXIMUM LAYERS AND COMPACTED TO ACHIEVE A DENSITY INDEX (ID) OF 70%. FREQUENCIES OF COMPACTION TESTS FOR TRENCHES SHALL BE 1 TEST PER 2 LAYERS PER 40 LINEAR METRE.
10. BACKFILL THE REMAINDER OF THE TRENCH ABOVE THE SAND TO SUBGRADE LEVEL WITH TRENCH MATERIAL. PLACE AND COMPACT MATERIALS IN LAYERS NOT EXCEEDING 150MM LOOSE THICKNESS. MATERIAL LOWER THAN 500MM BELOW SUBGRADE LEVEL SHALL BE COMPACTED TO AT LEAST 95% OF STANDARD MAXIMUM DRY DENSITY. THE TOP 500MM BELOW PAVEMENT SUBGRADE LEVELS SHALL BE COMPACTED TO AT LEAST 100% STANDARD MAXIMUM DRY DENSITY.
11. UNLESS OTHERWISE DETAILED OR PERMITTED, THE MINIMUM GRADE OF ALL PIPE WORKS SHALL BE 1.0%, AND HAVE MINIMUM 300mm COVER.

- E1. ALL TOPSOIL FROM EARTHWORKS AREAS SHOULD BE REMOVED AND STOCKPILED PRIOR TO ANY EARTHWORKS OPERATIONS.
- E2. ALL BATTER SLOPES SHALL BE A MAXIMUM OF 4:1 (U.N.O.)
- E3. ALL EARTHWORKS OPERATIONS SHALL BE SUPERVISED AND CERTIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER IN ACCORDANCE WITH AS3798 - 2007 SECTION 8.2 LEVEL 1 - INSPECTION AND TESTING.
- E4. ALL COMPACTION TEST RESULTS SHALL BE PROVIDED TO THE PRINCIPAL CERTIFYING AUTHORITY AS REQUIRED.
- E5. ALL SITE SELECTED AREAS AFTER FORMATION, SHALL BE COVERED WITH A 150mm SIEVE TOPSOIL LAYER. TOPSOIL STOCKPILED PRIOR TO EARTHWORKS OPERATIONS CAN BE REUSED FOR THIS PURPOSE PROVIDED ANY DELETERIOUS MATERIAL IS REMOVED PRIOR TO PLACING.
- E6. ALL DISTURBED AREAS SHALL BE REVEGETATED AND STABILISED AS SOON AS PRACTICAL AFTER THE COMPLETION OF ANY EARTHWORKS OPERATIONS.
- E7. SURPLUS MATERIAL INCLUDING TOPSOIL SHALL BE REMOVED AND DISPOSED OF LAWFULLY OFF SITE.

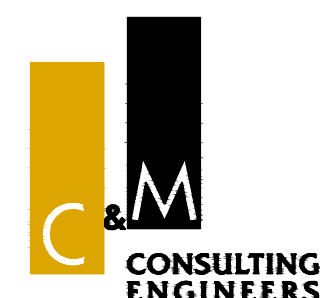
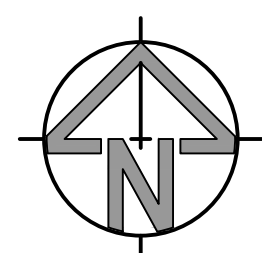


1. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF EROSION AND SEDIMENTATION TO THE SATISFACTION OF COUNCIL, THE RELEVANT STATE AUTHORITIES AND THE SUPERINTENDENT. TO THIS END, THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE DRAWINGS SHALL ONLY BE USED AS A GUIDE BY THE CONTRACTOR, AND SHALL REPRESENT THE MINIMUM REQUIREMENT ONLY.
2. NO CONSTRUCTION WORKS ARE TO COMMENCE ON SITE UNTIL ALL EROSION AND SEDIMENT CONTROL MEASURES ARE IN PLACE AND HAVE BEEN INSPECTED AND APPROVED BY THE COUNCIL ENGINEER AND/OR SUPERINTENDENT.
3. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REGULARLY INSPECTED, IN PARTICULAR AFTER STORMS, AND REPAIRED OR MAINTAINED AS REQUIRED TO ENSURE THE MEASURES CORRECT AND EFFICIENT FUNCTION THROUGHOUT THE DURATION OF THE WORKS, UNTIL SUCH TIME AS THE COUNCIL ENGINEER AND/OR SUPERINTENDENT AUTHORISES THE REMOVAL OF SUCH MEASURES.
4. ALL STOCKPILES SHALL BE CLEAR OF ALL TREES AND DRAINAGE LINES (INCLUDING OVERLAND FLOW PATHS) AND PROTECTED FROM EROSION.
5. IN THE CASE OF THE TEMPORARY CONSTRUCTION EXIT, THE CONTRACTOR SHALL UNDERTAKE WEEKLY SURFACE CLEANING BY DRAG BROOM OR EQUIVALENT, TO REMOVE ALL BUILD UP OF FOREIGN MATERIAL TO THE SATISFACTION OF THE SUPERINTENDENT.

1. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF TRAFFICS INCLUDING VEHICLES AND PEDESTRIANS TO THE SATISFACTION OF COUNCIL, THE RELEVANT STATE AUTHORITIES AND THE SUPERINTENDENT.
2. THE CONTRACTOR IS TO PREPARE A TRAFFIC MANAGEMENT PLAN TO THE REQUIREMENTS OF THE RMS - TRAFFIC CONTROL AT WORK SITE, AS 1742 - AUSTRALIAN STANDARD MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND LOCAL COUNCIL STANDARDS.

1. OTHER ENVIRONMENTAL CONTROLS LIKE NOISE, DUST, VIBRATION, FLORA & FAUNA, FIRE, HAZMAT, AND CONTAMINATIONS MUST BE CONTROLLED TO THE REQUIREMENT OF THE COUNCIL AND THE RELEVANT STATE AUTHORITIES.

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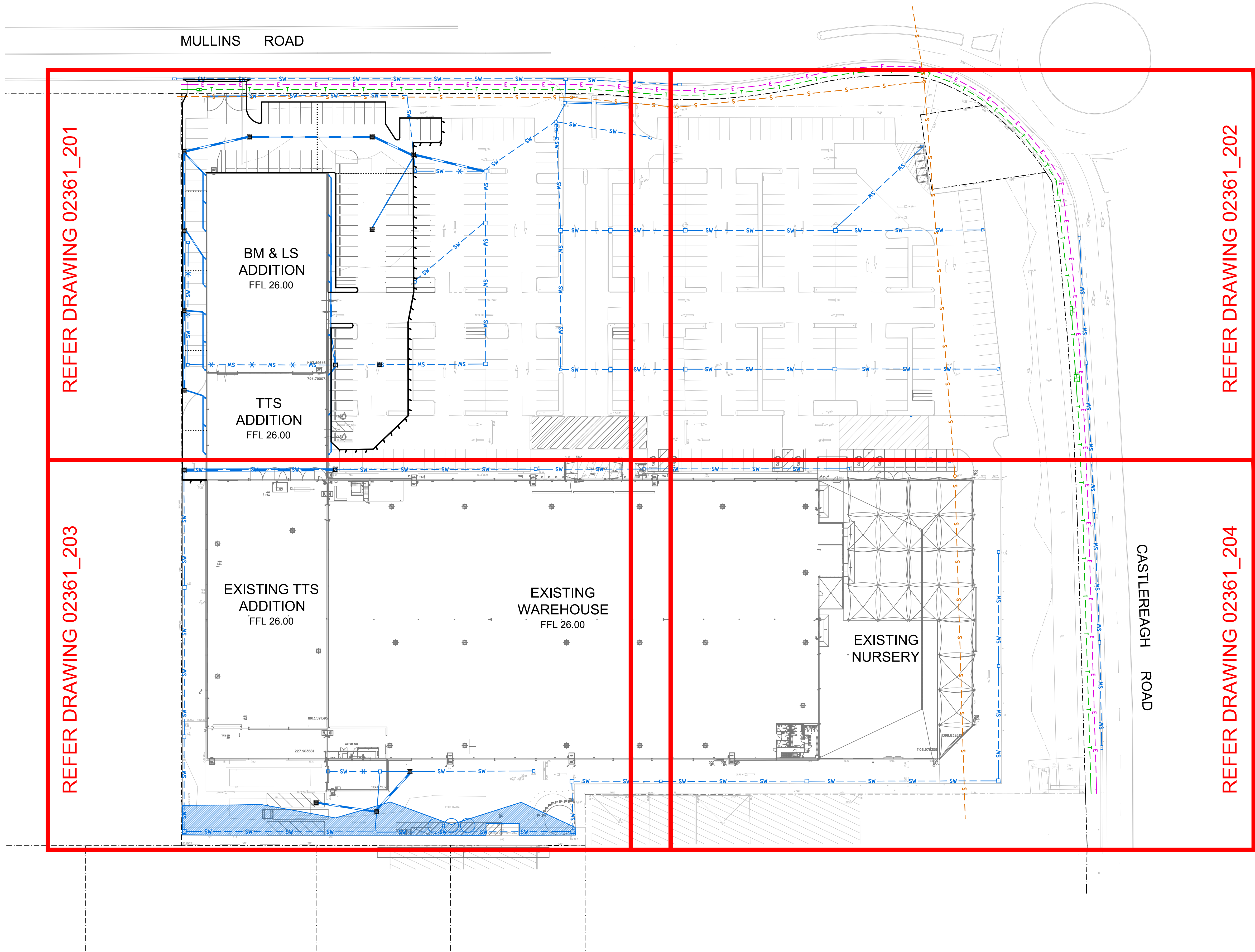
CIVIL AND HYDRAULIC
ENGINEERING DESIGN AND
PROJECT MANAGEMENT

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11 - 13 BROOKHOLLOW AVE
NORWEST NSW 2153

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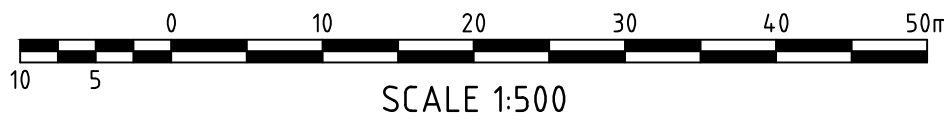
ABN 21 118 134 240

DESIGNER	W.M.	DATE	OCT 2020	BUNNINGS WAREHOUSE PENRITH		
ENGINEER	P.Ob	LGA	PENRITH			
VERIFIER	A.M.	SCALE @ A1	N/A			
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STATUS		DEVELOPMENT APPLICATION		DRAWING No.	02361_100	REVISION 01



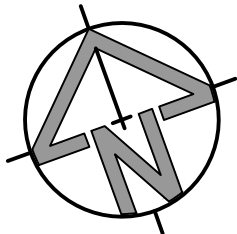
LEGEND

- BOUNDARY
- KERB
- RIDGE/VALLEY
- GRADE DEFINITION
- LIMIT OF WORKS
- 88.4 --- FINISHED SURFACE CONTOUR
- DN375 --- PROPOSED STORMWATER DRAINAGE LINE AND PIPE DIAMETER
- SW --- EXISTING STORMWATER DRAINAGE LINE AND PITS TO REMAIN
- SW --- * --- SW --- * --- EXISTING STORMWATER DRAINAGE LINE AND PITS TO BE DEMOLISHED
- GSIP --- STORMWATER GRATED SURFACE INLET PIT
- JP --- STORMWATER JUNCTION PIT
- A/3 --- STORMWATER DRAINAGE LINE LETTER STORMWATER STRUCTURE NUMBER
- *RL91.86 --- FINISHED SURFACE LEVEL
- *GRL91.86 --- FINISHED STORMWATER PIT GRATE LEVEL
- *LID91.86 --- FINISHED STORMWATER PIT LID LEVEL
- S --- EXISTING SEWER MAIN
- W --- EXISTING WATER MAIN

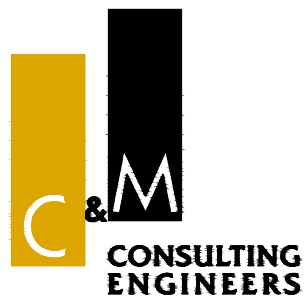


PRELIMINARY

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BUNNINGS WAREHOUSE PENRITH			
SITE LAYOUT PLAN & LEGEND			
STATUS	DEVELOPMENT APPLICATION	DRAWING No.	02361_110
REVISION			01

MULLINS ROAD

CONSTRUCT NEW HEAVY DUTY DRIVEWAY & VEHICULAR CROSSING TO COUNCIL STANDARD

ADJUST EXISTING SERVICE COVERS TO SUIT (TYPICAL)

BM & LS ADDITION
FFL 26.00

TTS ADDITION
FFL 26.00

SCALE 1:200

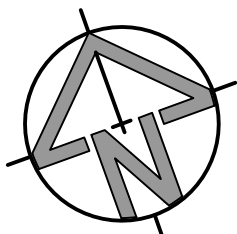
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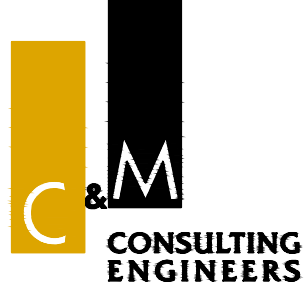
FOR CONTINUATION REFER DRG. 202

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BUNNINGS WAREHOUSE PENRITH

GENERAL ARRANGEMENT PLAN - SHEET 1

STATUS DEVELOPMENT APPLICATION DRAWING No. 02361_201 REVISION 01

A1

FOR CONTINUATION REFER DRG. 201

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FOR CONTINUATION REFER DRG. 204

MULLINS ROAD

EXISTING CARPARK

EXISTING CARPARK

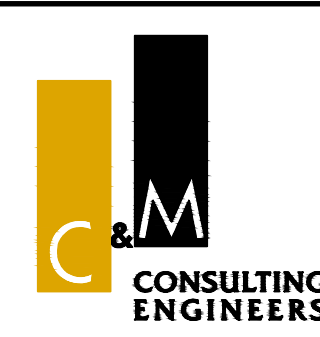
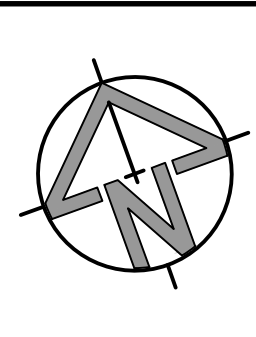
CASTLEREAGH ROAD



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GENERAL ARRANGEMENT PLAN - SHEET 2		
STATUS	DEVELOPMENT APPLICATION	DRAWING No. 02361_202
REVISION		01

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ADJUST EXISTING GSP TO PROPOSED LEVELS AND KERB ALIGNMENT

B
2

RL25.64

MAKE SMOOTH CONNECTION TO EXISTING PAVEMENT

EXISTING DN525 TO BE INSPECTED AND REPLACED IF REQUIRED

EXISTING JP TO BE INSPECTED AND REPLACED IF REQUIRED

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EXISTING JP TO BE INSPECTED AND REPLACED IF REQUIRED

EXISTING TTS
ADDITION
FFL 26.00

EXISTING WAREHOUSE
FFL 26.00

1863.591395

MAX 160 FALL

EXISTING PITS & PIPES TO BE DEMOLISHED

CONSTRUCT 900SQ GSP OVER EXISTING PIPE

CONSTRUCT 900SQ GSP OVER EXISTING PIPE

EXTENTS OF EXISTING ABOVE GROUND OSD STORAGE TO REMAIN

EXISTING PIPE TO REMAIN

EXISTING PIPE TO REMAIN

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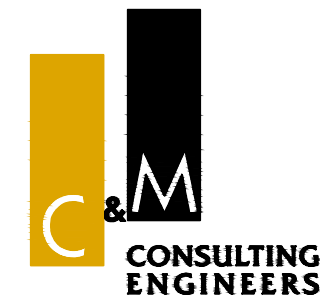
EXISTING PIPE TO REMAIN

EXISTING PIPE TO REMAIN

EXISTING PIPE TO REMAIN

EXISTING PIPE TO REMAIN

CLIENT



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VERIFIER	A.M.	SCALE @ A1	1:200
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BUNNINGS WAREHOUSE PENRITH

GENERAL ARRANGEMENT PLAN - SHEET 3

STATUS DEVELOPMENT APPLICATION DRAWING No. 02361_203 REVISION 01

FOR CONTINUATION REFER DRG. 204

FOR CONTINUATION REFER DRG. 204

A1

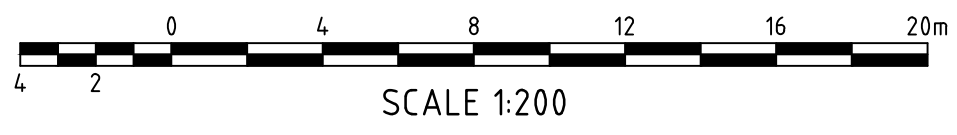
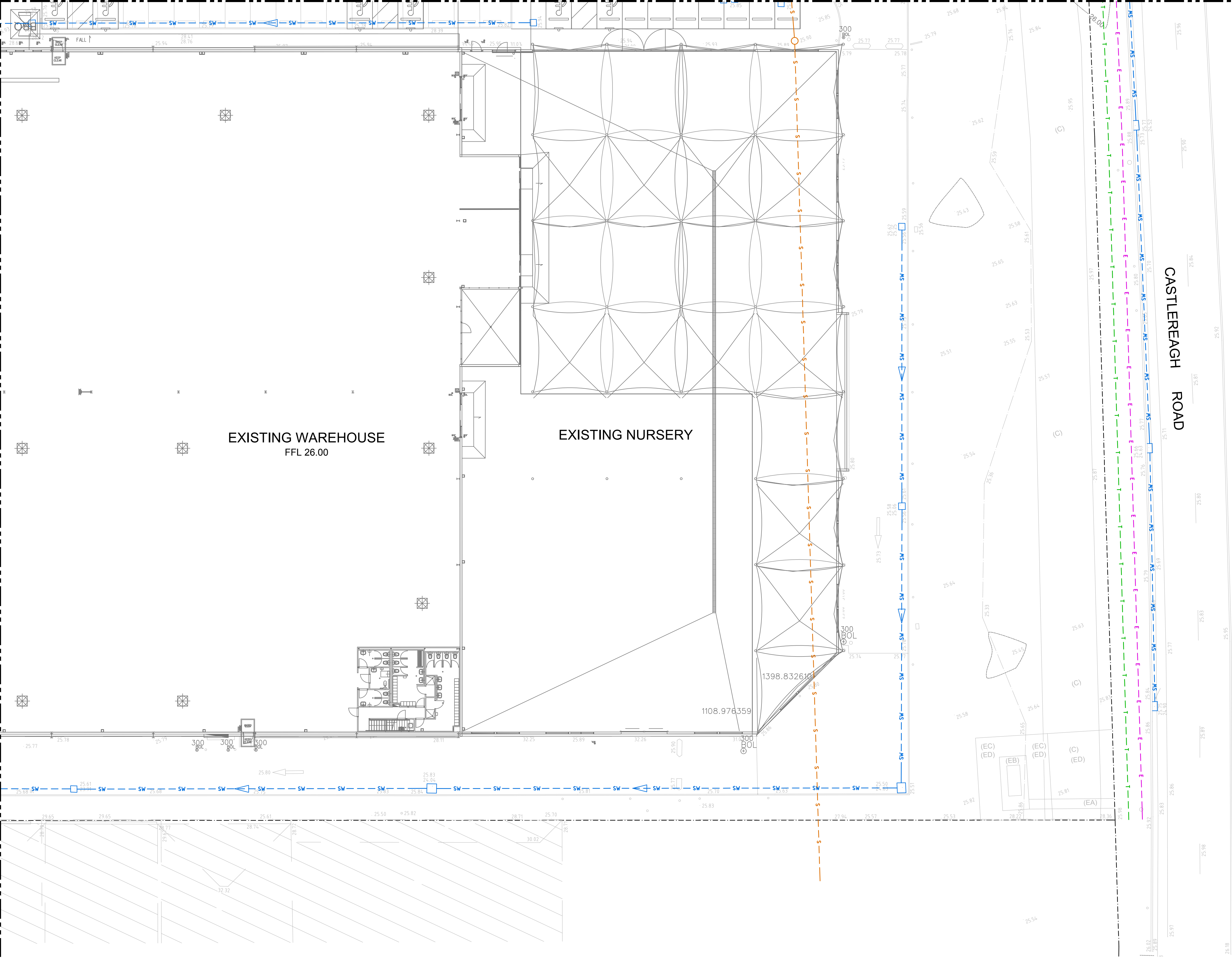
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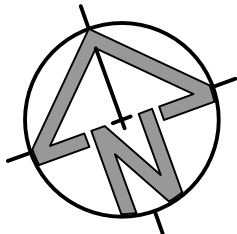
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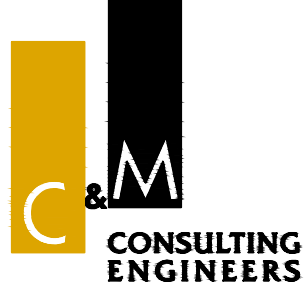


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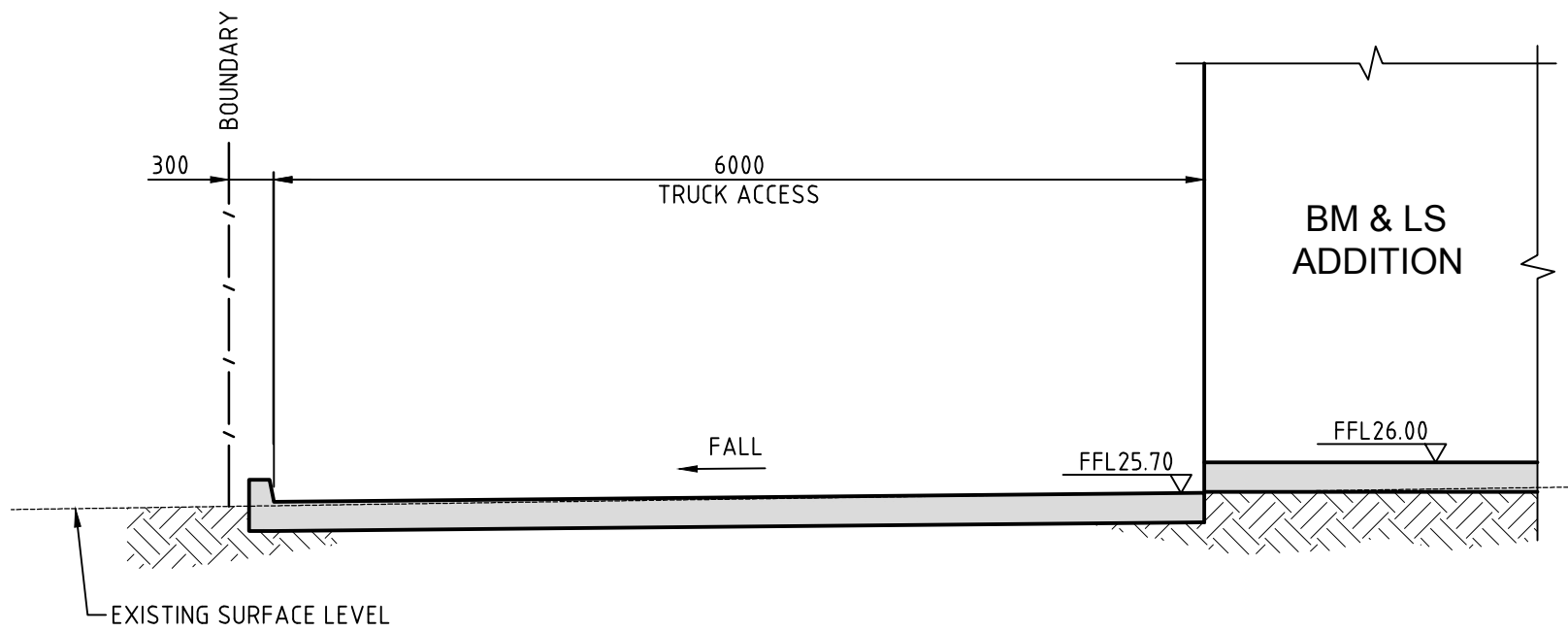
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VERIFIER	A.M.	SCALE @ A1	1:200
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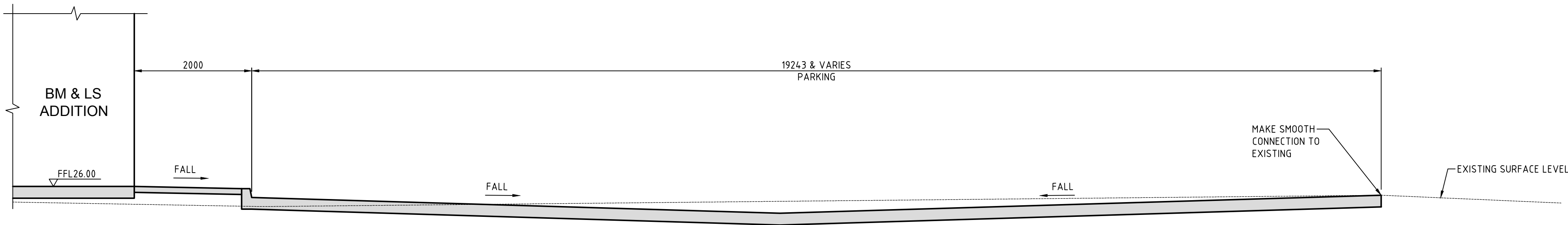
BUNNINGS WAREHOUSE PENRITH

GENERAL ARRANGEMENT PLAN - SHEET 4

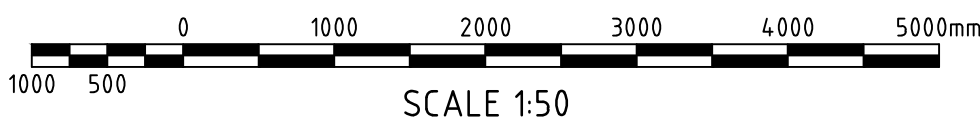
STATUS DEVELOPMENT APPLICATION DRAWING No. 02361_204 REVISION 01



SECTION S1
SCALE 1:50
201



SECTION S2
SCALE 1:50
201



NOT FOR CONSTRUCTION

01	W.M.	03/11/2020	A.M.	ISSUED FOR DA APPROVAL
REV.	DES.	DATE	VER.	DESCRIPTION

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CIVIL AND HYDRAULIC
ENGINEERING DESIGN AND
PROJECT MANAGEMENT

SUITE 26
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NORWEST NSW 2153

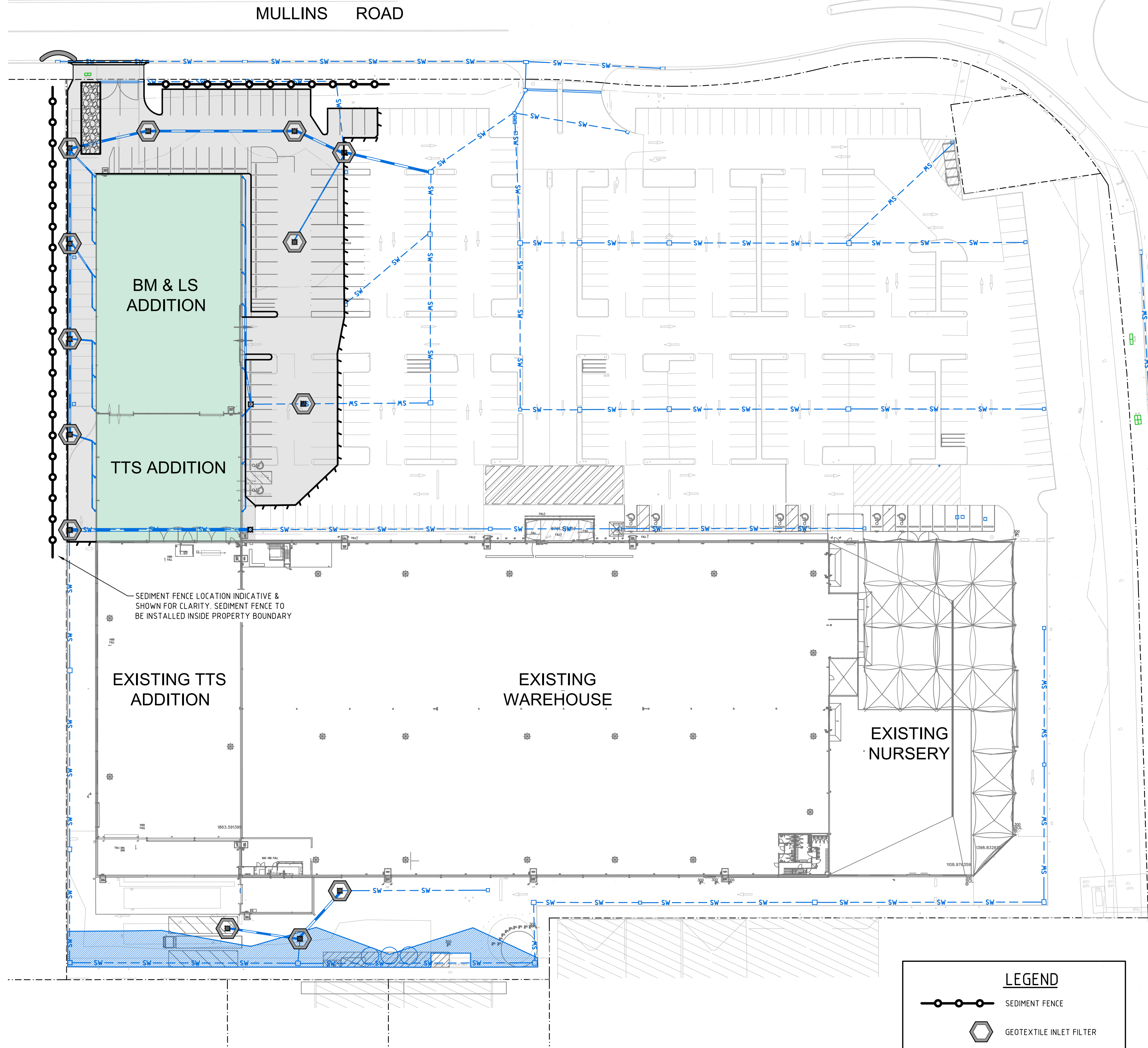
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DESIGNER	W.M.	DATE	OCT 2020
ENGINEER	P.Ob	LGA	PENRITH
VERIFIER	A.M.	SCALE @ A1	1:50
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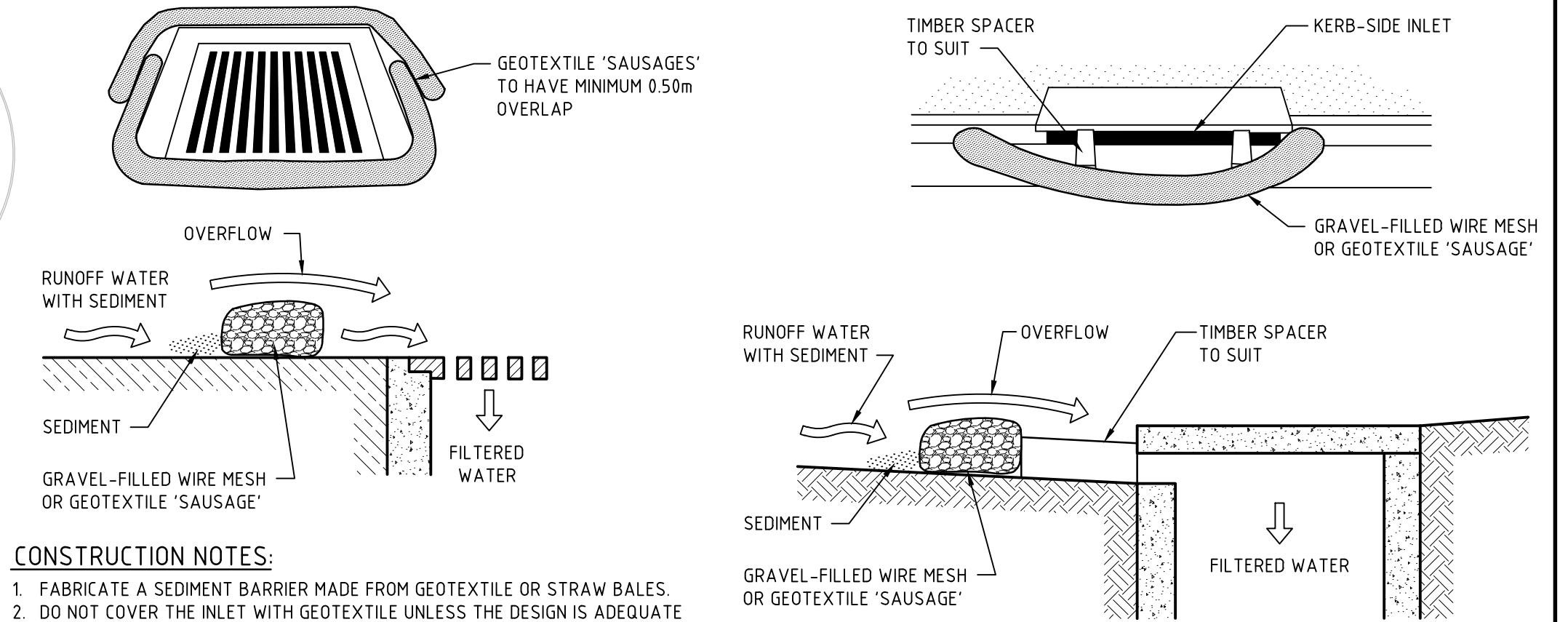
SITE SECTIONS

STATUS	DEVELOPMENT APPLICATION	DRAWING No.	02361_351	REVISION	01
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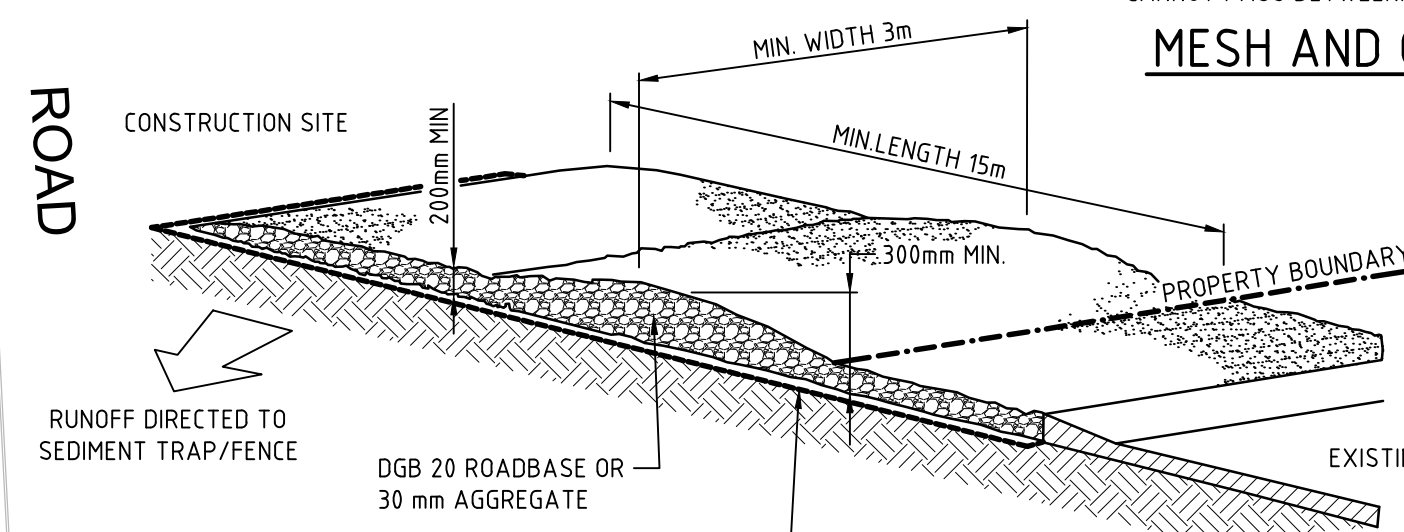
NOT FOR CONSTRUCTION

- LEGEND**
- SEDIMENT FENCE
 - GEOTEXTILE INLET FILTER
 - MESH & GRAVEL INLET FILTER
 - STABILISED SITE ACCESS



- CONSTRUCTION NOTES:**
- FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
 - DO NOT COVER THE INLET WITH GEOTEXTILE UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

GEOTEXTILE INLET FILTER DETAIL
FOR PITS WITHIN PAVEMENT AREAS
NOT TO SCALE



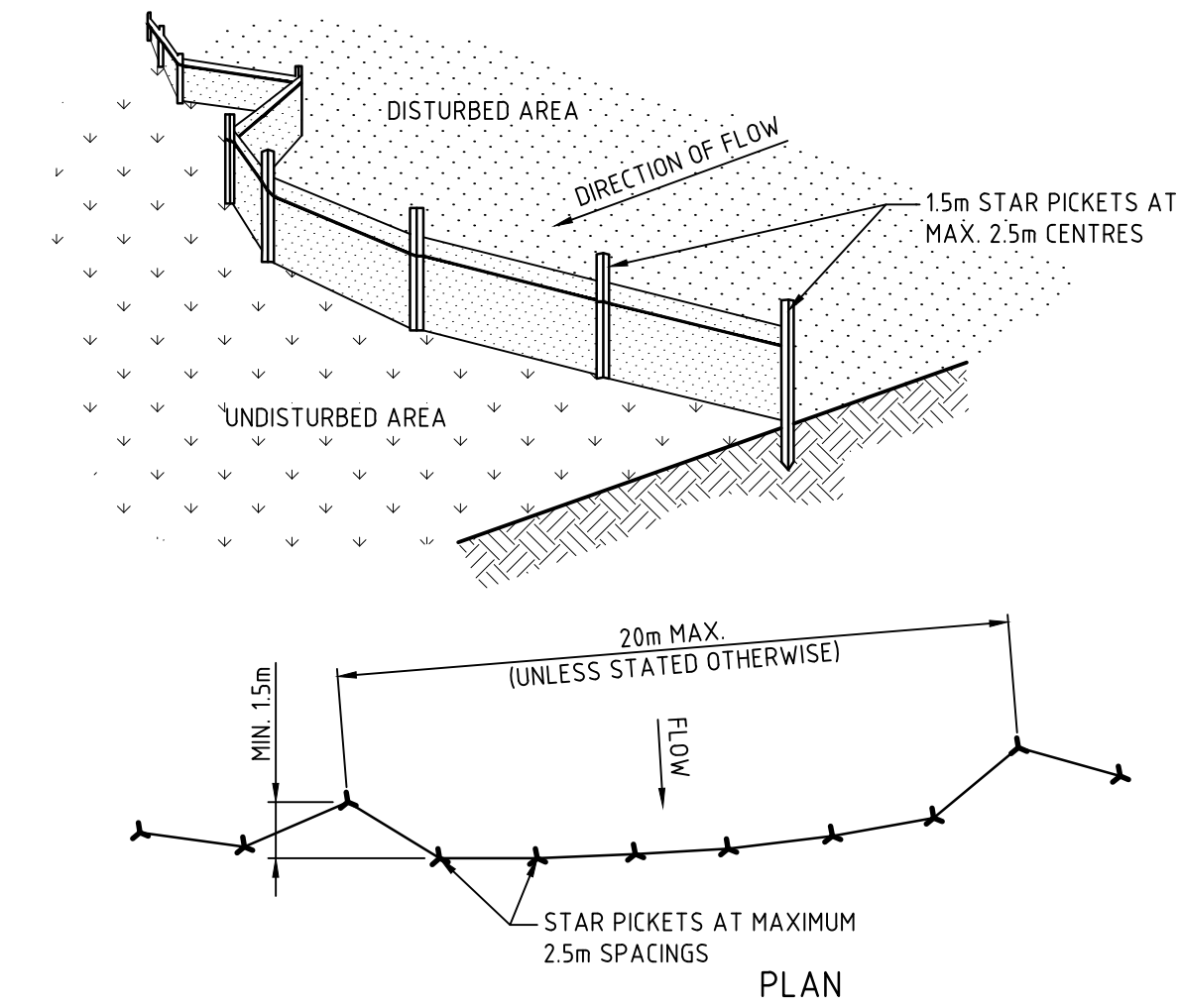
GEOTEXTILE FABRIC DESIGNED TO PREVENT INTERMIXING OF SUBGRADE AND BASE MATERIALS AND TO MAINTAIN GOOD PROPERTIES OF THE SUB-BASE LAYERS.

GEOTEXTILE MAY BE A WOVEN OR NEEDLE-PUNCHED PRODUCT WITH A MINIMUM CBR BURST STRENGTH (AS3706.4-90) OF 2500 N

MESH AND GRAVEL INLET FILTER DETAIL
NOT TO SCALE

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

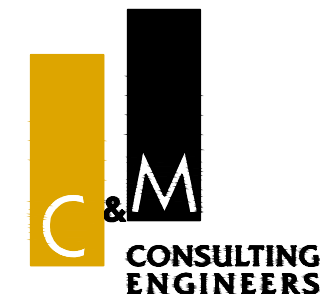
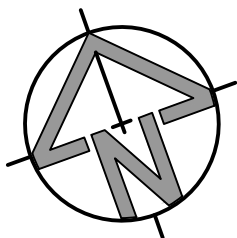
STABILISED SITE ACCESS DETAIL
NOT TO SCALE



- CONSTRUCTION NOTES:**
- 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 THE 10-YEAR EVENT.
 - CUT A 150mm DEEP TRENCH ALONG THE UPSLOPE LINE OF THE FENCE FOR THE BOTTOM OF THE FABRIC TO BE ENTRENCHED.
 - DRIVE 15 METRE LONG STAR PICKETS INTO THE GROUND AT 2.5 METRE INTERVALS (MAX) AT THE DOWNSLOPE EDGE OF THE TRENCH. ENSURE ANY STAR PICKETS ARE FITTED WITH SAFETY CAPS.
 - 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.
 - JOIN SECTIONS OF FABRIC AT A SUPPORT POST WITH A 150-mm OVERLAP.
 - BACKFILL THE TRENCH OVER THE BASE OF THE FABRIC AND COMPACT IT THOROUGHLY OVER THE GEOTEXTILE.

SEDIMENT FENCE DETAIL
NOT TO SCALE

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DESIGNER	W.M.	DATE	OCT 2020
ENGINEER	P.Ob	LGA	PENRITH
VERIFIER	A.M.	SCALE @ A1	1:500

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BUNNINGS WAREHOUSE PENRITH			
SEDIMENT & EROSION CONTROL PLAN & DETAILS			
STATUS	DEVELOPMENT APPLICATION	DRAWING No.	02361_701
REVISION			01