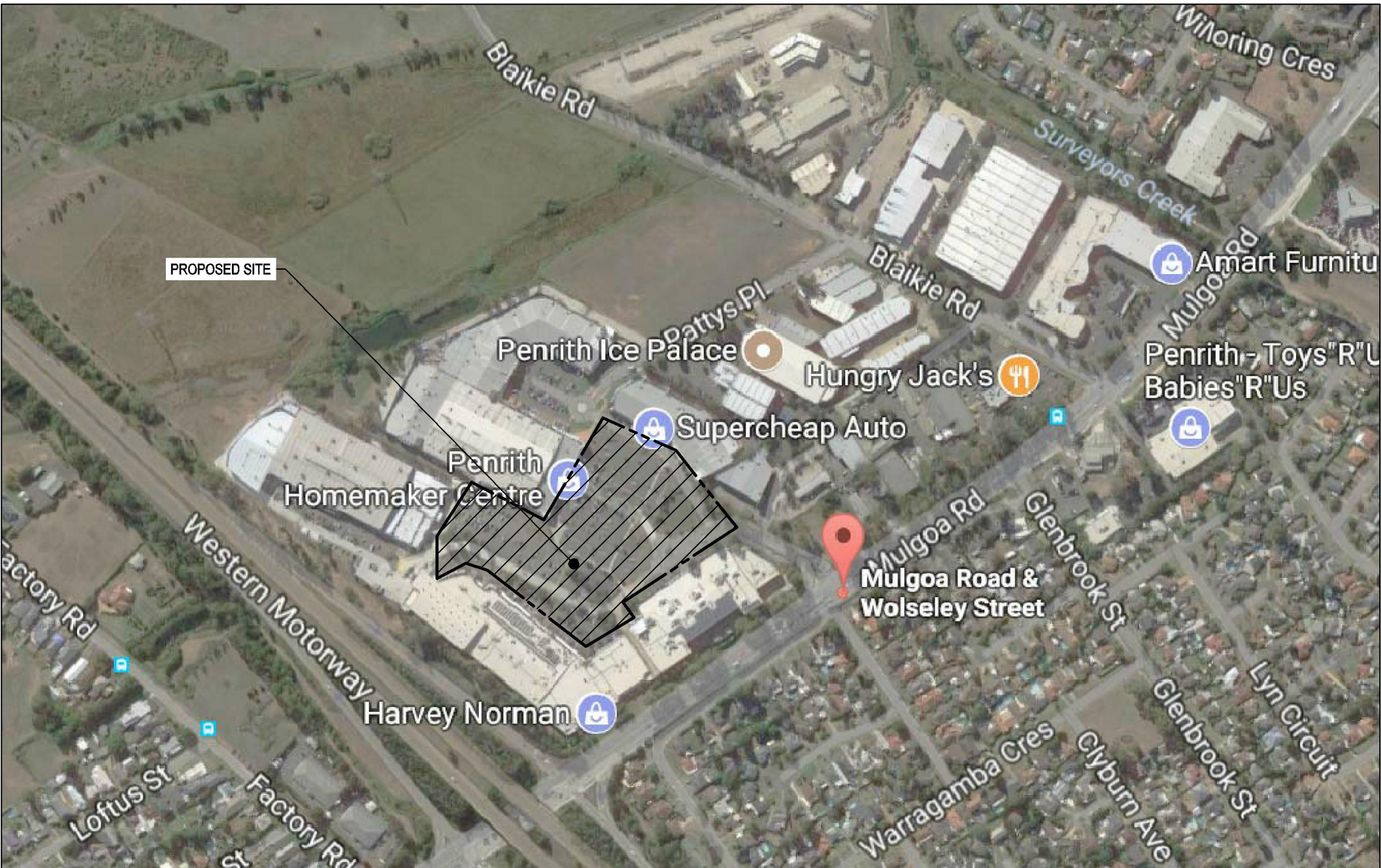
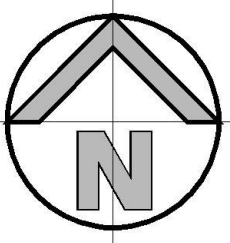


PROPOSED PENRITH HOMEMAKER CENTRE ULGOA ROAD & WOLSELEY STREET, PENRITH CIVIL ENGINEERING WORKS

GENERAL NOTES:

1. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH PENRITH CITY COUNCIL'S SPECIFICATION. CONTRACTOR TO OBTAIN AND RETAIN A COPY ON SITE DURING THE COURSE OF THE WORKS.
2. ALL NEW WORKS ARE TO MAKE A SMOOTH JUNCTION WITH EXISTING CONDITIONS AND MARRY IN A 'WORKMANLIKE' MANNER.
3. THE CONTRACTOR IS TO VERIFY THE LOCATION OF ALL SERVICES WITH EACH RELEVANT AUTHORITY. ANY DAMAGE TO SERVICES SHALL BE RECTIFIED BY THE CONTRACTOR OR THE RELEVANT AUTHORITY AT THE CONTRACTOR'S EXPENSE. SERVICES SHOWN ON THESE PLANS ARE ONLY THOSE EVIDENT AT THE TIME OF SURVEY OR AS DETERMINED FROM SERVICE DIAGRAMS. HENRY AND HYMAS CONSULTING PTY. LTD. CANNOT GUARANTEE THE INFORMATION SHOWN NOR ACCEPT ANY RESPONSIBILITY FOR INACCURACIES OR INCOMPLETE DATA.
4. SERVICES & ACCESSSES TO THE EXISTING PROPERTIES ARE TO BE MAINTAINED IN WORKING ORDER AT ALL TIMES DURING CONSTRUCTION.
5. ADJUST EXISTING SERVICE COVERS TO SUIT NEW FINISHED LEVELS TO RELEVANT AUTHORITY REQUIREMENTS WHERE NECESSARY.
6. REINSTATE AND STABILISE ALL DISTURBED LANDSCAPED AREAS.
7. MINIMUM GRADE OF SUBSOIL SHALL BE 0.5% (1:200) FALL TO OUTLETS.
8. ALL TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES ARE TO BE CONSTRUCTED, PLACED AND MAINTAINED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS, EROSION AND SEDIMENTATION CONTROL PLAN AND PENRITH CITY COUNCIL'S REQUIREMENTS WHERE APPLICABLE.
9. CONTRACTOR TO CHECK AND CONFIRM SITE DRAINAGE CONNECTIONS ACROSS THE VERGE PRIOR TO COMMENCEMENT OF SITE DRAINAGE WORKS.
10. PROPERTIES AFFECTED BY THE WORKS ARE TO BE NOTIFIED IN ADVANCE WHERE DISRUPTION TO EXISTING ACCESS IS LIKELY.



LOCALITY SKETCH

NTS

SITWORKS NOTES

- DATUM : A.H.D.
- ORIGIN OF LEVELS : REFER TO BENCH OR STATE SURVEY MARKS WHERE SHOWN ON PLAN.
- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO THE COMMENCEMENT OF WORK.
- ALL WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS & THE DIRECTIONS OF THE SUPERINTENDENT.
- EXISTING SERVICES UNLESS SHOWN ON THE SURVEY PLAN HAVE BEEN PLOTTED FROM SERVICES SEARCH PLANS AND AS SUCH THEIR ACCURACY CANNOT BE GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
- WHERE NEW WORKS ABOUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS ACHIEVED.
- THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR.
- CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATION IS TO BE UNDERTAKEN OVER TELSTRA OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS.
- CONTRACTOR TO OBTAIN AUTHORITY APPROVALS WHERE APPLICABLE.
- MAKE SMOOTH TRANSITION TO EXISTING SURFACES AND MAKE GOOD.
- THESE PLANS SHALL BE READ IN CONJUNCTION WITH APPROVED LANDSCAPE, ARCHITECTURAL, STRUCTURAL, HYDRAULIC AND MECHANICAL DRAWINGS AND SPECIFICATIONS OR WRITTEN INSTRUCTIONS THAT MAY BE ISSUED RELATING TO DEVELOPMENT AT THE SITE.
- TRENCHES THROUGH EXISTING ROAD AND CONCRETE PAVEMENTS SHALL BE SAWCUT TO FULL DEPTH OF CONCRETE AND A MINIMUM OF 50mm IN BITUMINOUS PAVING.
- ALL BRANCH GAS AND WATER SERVICES UNDER DRIVEWAYS AND BRICK PAVING SHALL BE LOCATED IN Ø80 uPVC SEWER GRADE CONDUITS EXTENDING A MINIMUM OF 500mm BEYOND EDGE OF PAVING.
- GRADES TO PAVEMENTS TO BE AS IMPLIED BY RL'S ON PLAN . GRADE EXCEPT WHERE NOMINATED RL'S. AREAS EXHIBITING PONDING GREATER THAN 5mm DEPTH WILL NOT BE ACCEPTED UNLESS IN A DESIGNATED SAG POINT.
- ALL COVERS AND GRATES ETC TO EXISTING SERVICE UTILITIES ARE TO BE ADJUSTED TO SUIT NEW FINISHED SURFACE LEVELS WHERE APPLICABLE.

DRAWING SCHEDULE

DRAWING SCHEDULE	
17691_DA_C000	COVER SHEET, DRAWING SCHEDULE, NOTES AND LOCALITY SKETCH
17691_DA_C100	GENERAL ARRANGEMENT PLAN
17691_DA_C101	DETAIL PLAN, SHEET 1 OF 2
17691_DA_C102	DETAIL PLAN, SHEET 2 OF 2
17691_DA_C200	STORMWATER MISCELLANEOUS DETAILS AND PIT LID SCHEDULE
17691_DA_C201	OSD PLAN, SECTIONS AND DETAILS
17691_DA_C250	STORMWATER CATCHMENT PLANS
17691_DA_SE01	SEDIMENT AND EROSION CONTROL PLAN
17691_DA_SE02	SEDIMENT AND EROSION CONTROL DETAILS

DRAINAGE NOTES:

1. ALL STORMWATER WORK TO COMPLY WITH AS 3500:3 PART 3.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE MINIMUM COVER OF 600mm ON ALL PIPES.
3. PROTECTION OF PIPES DUE TO LOADS EXCEEDING W7 WHEEL LOAD SHALL BE THE CONTRACTORS RESPONSIBILITY.
4. BEDDING TYPE SHALL BE TYPE H2 FOR RCP. WHERE NECESSARY THE OVERLAY ZONE SHALL BE REDUCED TO ACCOMMODATE PAVEMENT REQUIREMENTS. REFER TO THIS DRAWING FOR DETAILS.
5. MINIMUM COVER OVER EXISTING PIPES FOR PROTECTION DURING CONSTRUCTION SHALL BE 800mm.
6. NO CONSTRUCTION LOADS SHALL BE APPLIED TO PLASTIC PIPES.
7. FINISHED SURFACE LEVELS SHOWN ON LAYOUT PLAN DRGS TAKE PRECEDENCE OVER DESIGN DRAINAGE SURFACE LEVELS.
8. ALL PIPES UP TO AND INCLUDING 300 DIA. SHALL BE SOLVENT OR RUBBER RING JOINTED PVC CLASS SH PIPE TO AS1260. ALL OTHER PIPES TO BE RCP USING CLASS 2 RUBBER RING JOINTED PIPE. HARDIES FRC PIPE MAY BE USED IN LIEU OF RCP IF DESIRED IN AROUND. ALL AERIAL PIPES TO BE PVC CLASS SH.
9. ALL PITS IN NON TRAFFICABLE AREAS TO BE PREFABRICATED POLYESTER CONCRETE "POLYCRETE" WITH "LIGHT DUTY" CLASS B GALV. MILD STEEL GRATING AND FRAME.
ALL PITS IN TRAFFICABLE AREAS ("CLASS TD" LOADING MAX) TO HAVE 150mm THICK CONCRETE WALLS AND BASE CAST IN-SITU $f_{cs}=32$ MPa, REINFORCED WITH N12-200 BOTH LOADING WAYS CENTRALLY PLACE. U.N.O. ON SEPARATE DESIGN DRAWINGS IN THIS SET. GALV.MILD STEEL GRATING AND FRAME TO SUIT DESIGN/LOADING. PRECAST PITS, RECTANGULAR OR CIRCULAR IN SHAPE, MAY BE USED IN LIEU AND SHALL COMPLY WITH RELEVANT AUSTRALIAN STANDARDS.
10. ALL PITS, GRATINGS AND FRAMES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATION AND TO BE IN ACCORDANCE WITH AS3500.3 AND AS3996.
11. PIT CHAMBER DIMENSIONS ARE TO BE SELECTED TO SATISFY THE FOLLOWING:
 - PIPE SIZE
 - DEPTH TO INVERT
 - SKEW ANGLEREFER TYPICAL PIT CHAMBER DETAILS BELOW
- IF PIT LID SIZE IS SMALLER THAN THE PIT CHAMBER SIZE THEN THE PIT LID IS TO BE CONSTRUCTED ON THE CORNER OF THE PIT CHAMBER WITH THE STEP IRONS DIRECTLY BELOW. ALTERNATIVELY THE PIT LID TO BE USED, IS TO BE THE SAME SIZE AS THE PIT CHAMBER.
12. FOR PIPE SIZES GREATER THAN Ø300mm, PIT FLOOR IS TO BE BENCHED TO FACILITATE FLOW.
13. GALVANISED STEP IRONS SHALL BE PROVIDED AT 300 CTS FOR PITS HAVING A DEPTH EXCEEDING 1200mm. SUBSOIL DRAINAGE PIPE SHALL BE PROVIDED IN PIPE TRENCHES ADJACENT TO INLET PIPES. (MINIMUM LENGTH 3m).
14. ALL SUBSOIL PIPES SHALL BE 100mm SLOTTED PVC IN A FILTER SOCK, UNO, WITH 3m INSTALLED UPSTREAM OF ALL PITS.
15. ALL PIPEWORK SHALL HAVE MINIMUM DIAMETER 100.
16. MINIMUM GRADE FOR ROOFWATER DRAINAGE LINES SHALL BE 1%.
17. ALL PIPE JUNCTIONS AND TAPER UP TO AND INCLUDING 300 DIA. SHALL BE VIA PURPOSE MADE FITTINGS.
18. ALL ROOF DRAINAGE TO BE INSTALLED IN ACCORDANCE WITH AS3500, PART 3. TESTING TO BE UNDERTAKEN AND REPORTS PROVIDED TO THE SUPERINTENDENT.
19. LOCATION OF THE DIRECT DOWN PIPE CONNECTIONS MAY VARY ON SITE TO SUIT SITE CONDITIONS, WHERE CONNECTION SHOWN ON LONG SECTIONS CHAINAGES ARE INDICATIVE ONLY.
20. PITS IN EXCESS OF 1.5 m DEEP TO HAVE WALL AND FLOOR THICKNESS INCREASED TO 200mm. REINFORCED WITH N12@200 CTS CENTRALLY PLACED BOTH WAYS THROUGHOUT U.N.O.ON SEPARATE DESIGN DRAWINGS IN THIS SET. IF DEPTH EXCEEDS 5m CONTACT ENGINEER.
21. SUBSOIL DRAINAGE LINES FOR LANDSCAPE AREA NOT SHOWN ON THESE DRAWINGS. REFER TO LANDSCAPING PLANS FOR DETAILS.
22. ALL STORMWATER PITS TO HAVE Ø100 uPVC SLOTTED SUBSOIL PIPES CONNECTED TO THEM. THESE SUBSOILS TO EXTEND 3m UPSTREAM OF THE PIT AT A MINIMUM GRADE.

SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY THE SURVEYOR SPECIFIED IN THE TITLE BLOCK.

THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. HENRY AND HYMAS PTY. LTD. DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.

SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT HENRY AND HYMAS PTY. LTD. THE FOLLOWING NOTES HAVE BEEN TAKEN DIRECTLY FROM ORIGINAL SURVEY DOCUMENTS.

FOR DA ONLY

[illegible]



A close-up photograph of a white rectangular road sign with black text that reads "WOLSELEY STREET". The sign is mounted on a metal post, and the background shows a road with orange and white painted lines.

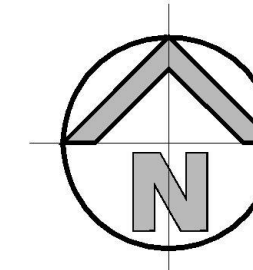
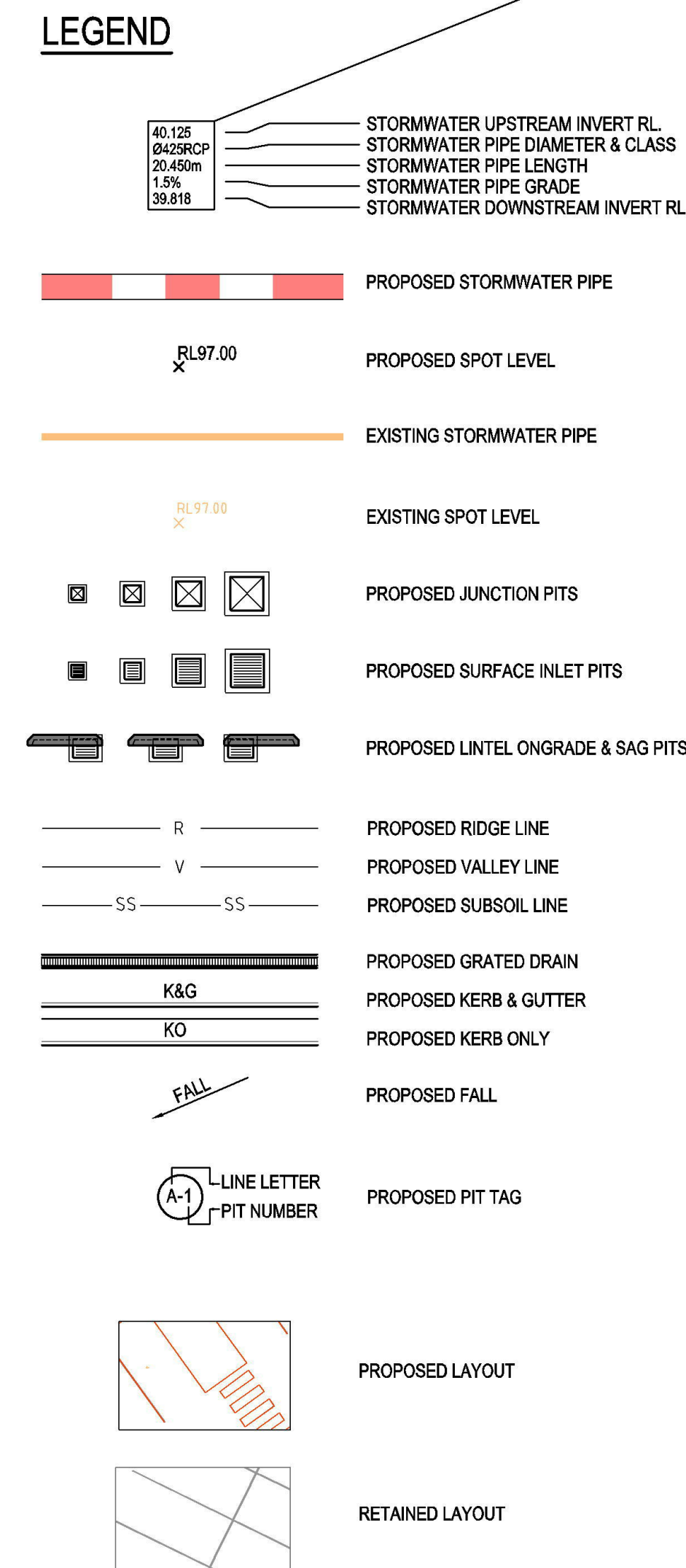
GENERAL ARRANGEMENT PLAN

SCALE: 1:500

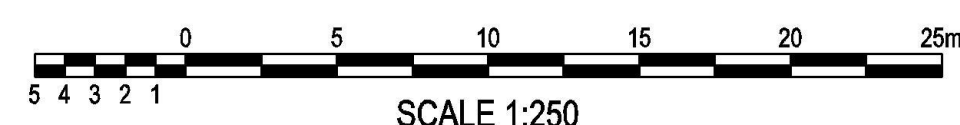


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Document Set ID: 8126223
Version: 1, Version Date: 07/04/2018



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DETAIL PLAN
SCALE: 1:250

[illegible]

FOR CONTINUATION REFER TO DWG 17691_DA_C101

LEGEND

40.125	STORMWATER UPSTREAM INVERT RL
Ø425RCP	STORMWATER PIPE DIAMETER & CLASS
20.450m	STORMWATER PIPE LENGTH
1.5%	STORMWATER PIPE GRADE
39.818	STORMWATER DOWNSTREAM INVERT RL

PROPOSED STORMWATER PIPE

PROPOSED SPOT LEVEL

EXISTING STORMWATER PIPE

EXISTING SPOT LEVEL

PROPOSED JUNCTION PITS

PROPOSED SURFACE INLET PITS

PROPOSED LINTEL ONGRADE & SAG PITS

PROPOSED ABOVE GROUND DETENTION

PROPOSED RIDGE LINE

PROPOSED VALLEY LINE

PROPOSED SUBSOIL LINE

PROPOSED BEARING DRAIN

PROPOSED KERB & GUTTER

PROPOSED FALL

PROPOSED PIT TAG

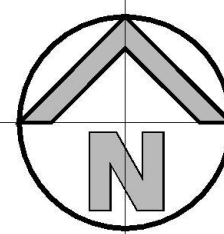
PROPOSED LAYOUT

RETAINED LAYOUT

DETAIL PLAN

SCALE: 1:250

SCALE 1:250



FOR DA ONLY

**SURVEY
INFORMATION**
SURVEYED BY LTS
DATUM: AHD

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR DA	MC	JS	24/10/2017					

Client
HARVEY NORMAN
Builder
LEFFLER SIMES PTY LTD

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Project
PENRITH HOMEMAKER CENTRE
CNR. MULGOA ROAD & WOLSELEY STREET, PENRITH
Title
DETAIL PLAN
SHEET 2 OF 2

Drawn M.Cerna	Designed J.Gornly	Date OCT 17
Checked A.Francis	Approved A.Francis	Scale 1:250 @A1
Drawing number 17691_DA_C102	Revision 01	

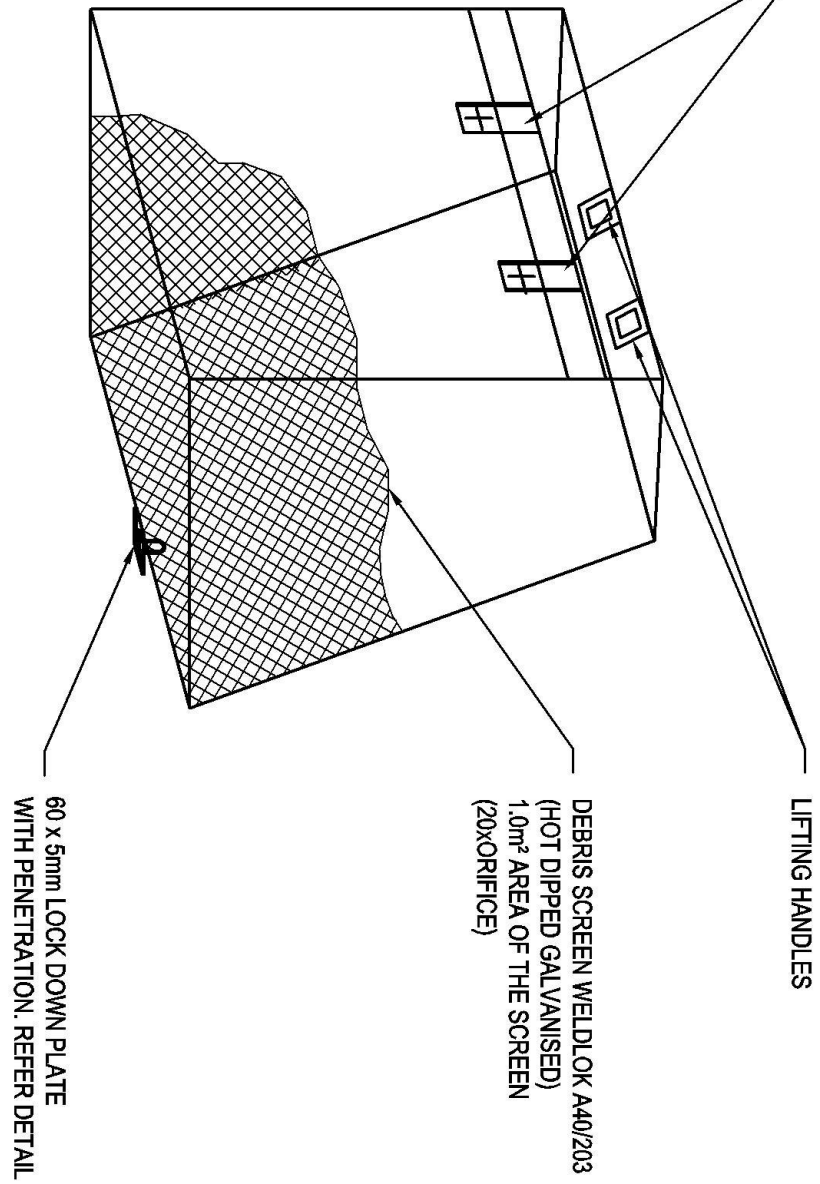


OSD PLAN
SCALE: 1:200

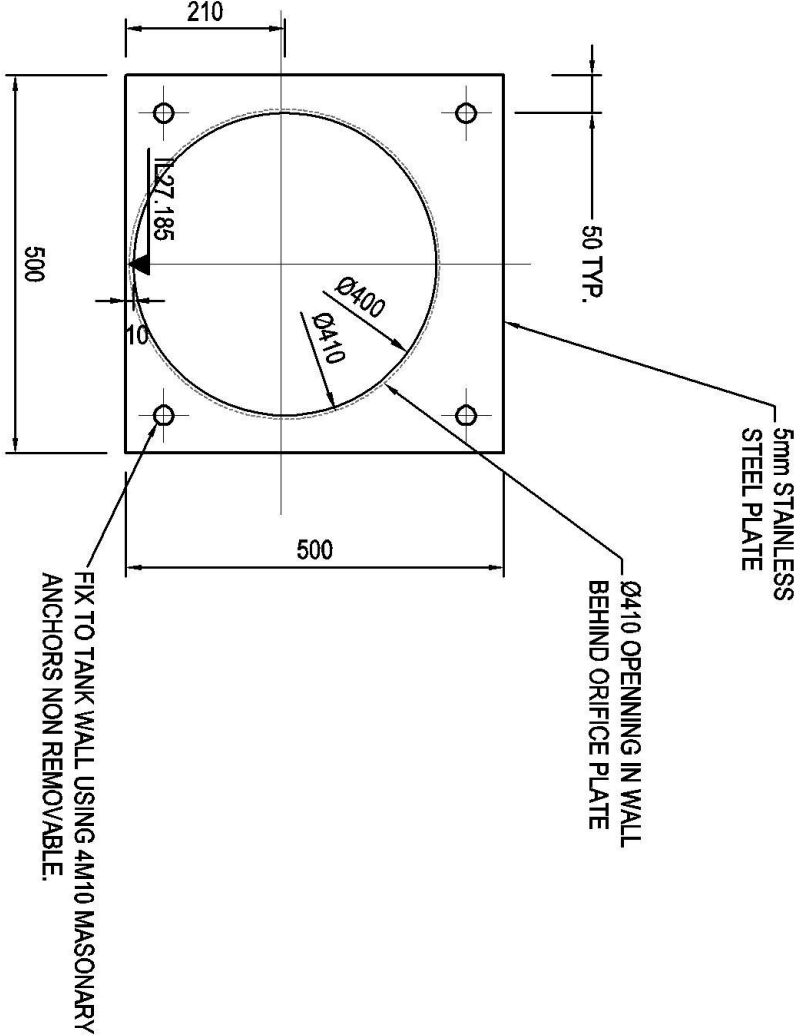
100 x 16 mounting bar with brackets. Screen to be attached generally on a sliding mechanism to the wall, but should be removable (without the use of tools) to permit cleansing and easy inspection of the outlet cover. All steel to be hot dipped galvanised.

SCREEN TYPE WELD LOK AA0203 IS RECOMMENDED FOR ORIFICES LARGER THAN 150mm AND SCREEN AREA 2.0 x THE ORIFICE AREA FOR THAT TYPE OF SCREEN - REFER UPDCT SECTION 4-13

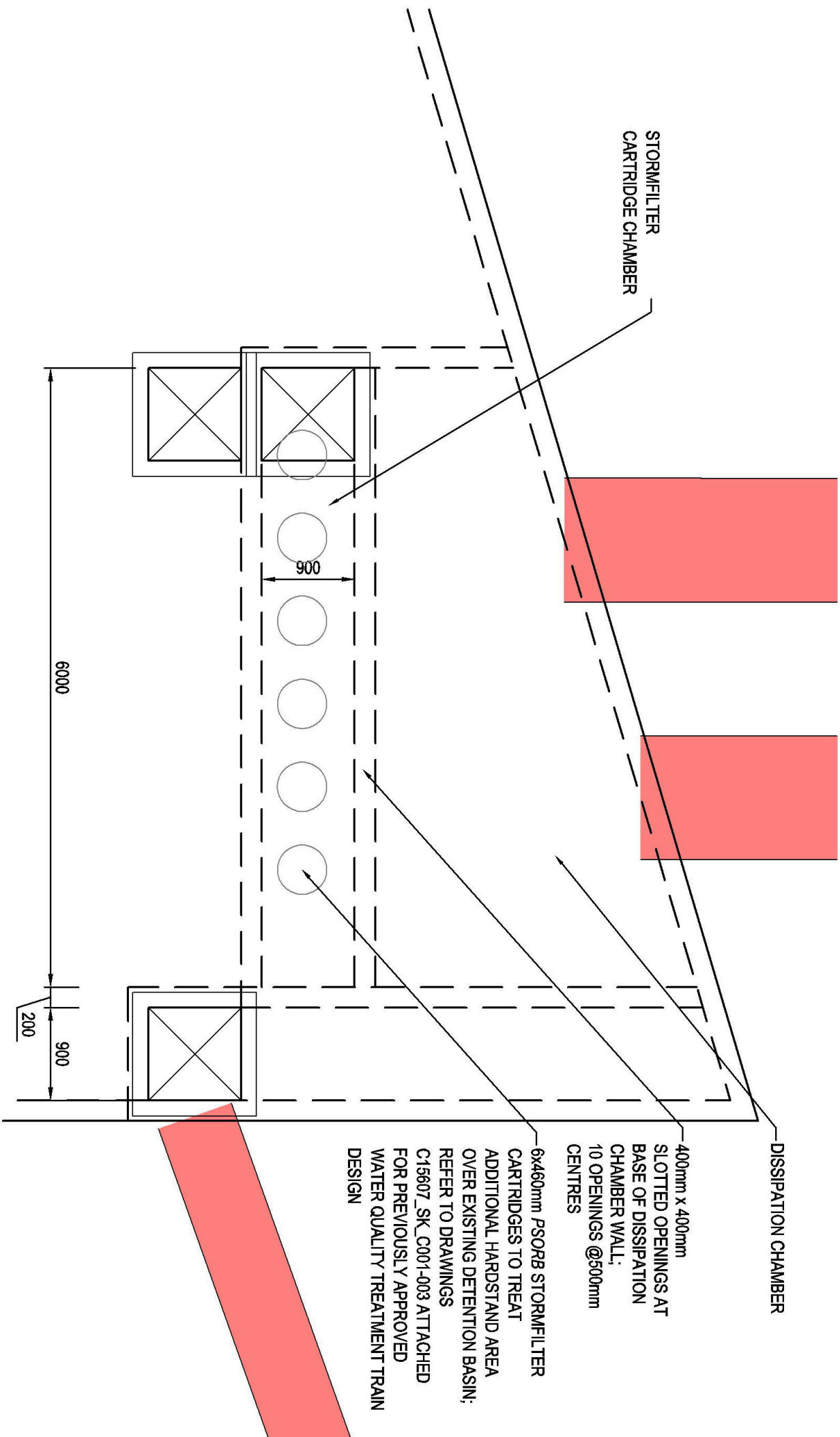
MAXIMESH RH300 IS RECOMMENDED FOR ORIFICES LESS THAN 150mm IN DIAMETER AND SCREEN AREA 5.0x THE ORIFICE AREA REFER BURWOOD COUNCIL AND UPPER PARARAMATTA RIVER CATCHMENT TRUST HANDBOOK.



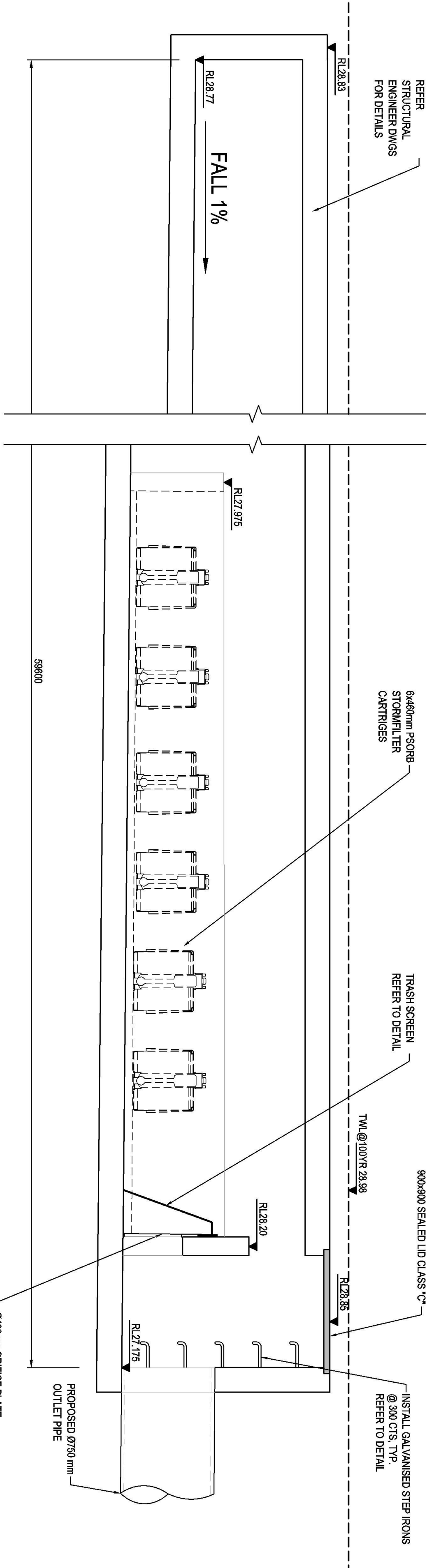
DEBRIS SCREEN DETAIL
NOT TO SCALE
ALL STEEL TO BE HOT DIPPED GALVANISED



ORIFICE PLATE
SCALE: 1:10

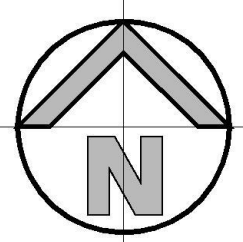


DISCHARGE / CARTRIDGE / DISSIPATION CHAMBER DETAIL
SCALE: 1:30

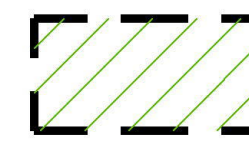
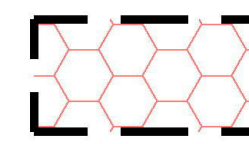
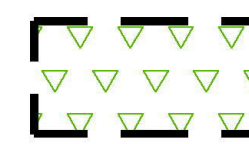
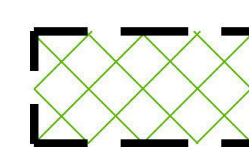
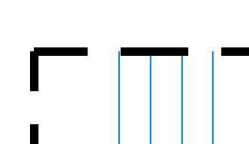


SECTION A
SCALE: 1:25

Client				Level 5, 79 Victoria Avenue Cherrywood NSW 2607				Project			
HARVEY NORMAN				Telephone +61 2 9417 9400				PENRITH HOMEWORKER CENTRE			
LEFFLER SIMES PTY LTD				Fax +61 2 9417 8837				CNR. MULGOA ROAD & WOLSELEY STREET, PENRITH			
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www.henryhyman.com.au				www.henryhyman.com.au				Drawing number			
henryhyman				17691_DA_C201				Revision			
Drawn				Checked				Approved			
M. Corina				J. Corina				Scale			
A. Francis				A. Francis				AS NOTED @A1			
Date				Scale				Revision			
SEP 17				AS NOTED @A1				Revision			
01				01				01			
ISSUED FOR DA				01				01			
AMENDMENT				AMENDMENT				AMENDMENT			
DRAWN				DESIGNED				DATE			
DATE				DATE				DATE			
25/02/2017				25/02/2017				25/02/2017			
JG				JG				JG			
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REVISION				REVISION				REVISION			

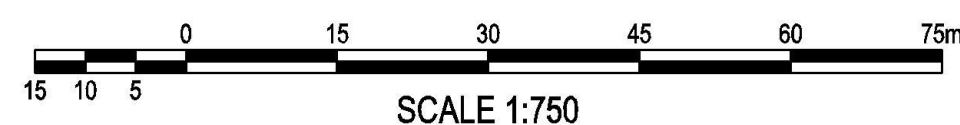


LEGEND:

-  CATCHMENT 1 = 2.1723 ha
DRAINING TO EXISTING STORMWATER
DETENTION BASIN FOR REDIRECTION TO
PROPOSED OSD
-  CATCHMENT 2 = 1.6375 ha
DRAINING THROUGH PIT EX-2 TO EXISTING
STORMWATER DETENTION BASIN FOR
REDIRECTION TO PROPOSED OSD
-  CATCHMENT 3 = 0.1275 ha
TO REPLACE EXISTING DETENTION BASIN
ADDITIONAL HARDSTAND TO BE TREATED
BY 6x460mm PSORB STORMFILTER
CARTRIDGES
-  CATCHMENT 4 = 0.1435 ha
ABOVE-GROUND DETENTION DRAINING
DIRECTLY TO PROPOSED OSD
-  CATCHMENT 5 = 3.45 ha
DRAINING TO BASIN 2 WEST OF SITE

STORMWATER CATCHMENT PLAN

SCALE: 1:750



FOR DA ONLY

SURVEY
INFORMATION
SURVEYED BY LTS
DATUM: AHD

REVISION	AMENDMENT	DRAWN	DESIGNED	DATE	REVISION	AMENDMENT	DRAWN	DESIGNED	DATE
01	ISSUED FOR DA	MC	JS	25/10/2017					

Client
HARVEY NORMAN

Architect
LEFFLER SIMES PTY LTD

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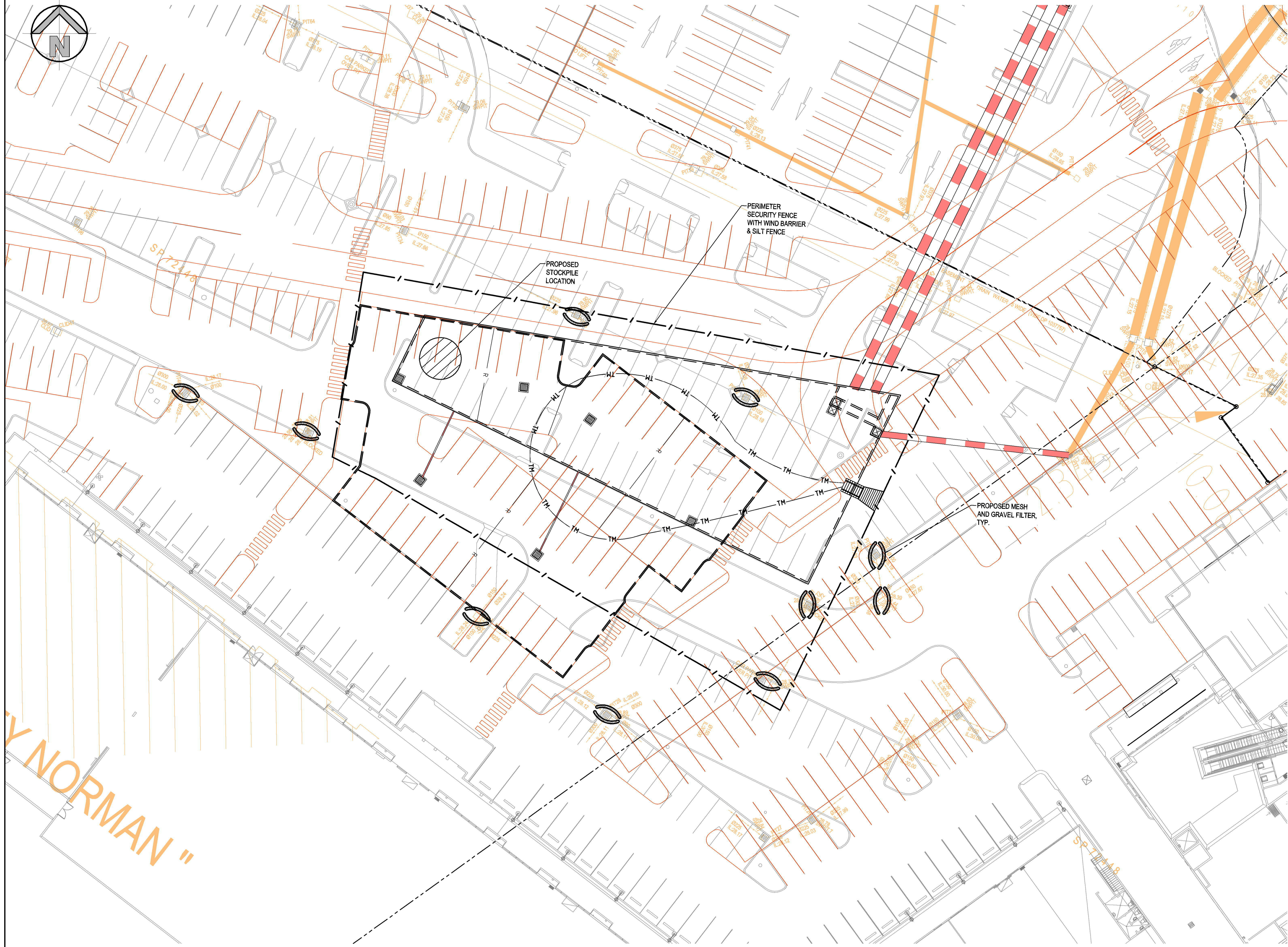
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Project
PENRITH HOMEMAKER CENTRE
CNR. MULGOA ROAD & WOLSELEY STREET, PENRITH

Title
STORMWATER CATCHMENT PLAN

Drawn M.Cerna	Designed J.Gormly	Date SEP 17
Checked A.Francis	Approved A.Francis	Scale 1:750 @A1
Drawing number 17691_DA_C250		Revision 01



LEGEND

TM

TM

TRAFFIC MANOEUVRING

PROPOSED SEDIMENTATION FENCE

PROPOSED LIMIT OF WORK

CD

CD

CATCH DIVERSION DRAIN

PROPOSED VEHICLE SHAKER GRID

PROPOSED STABILISED SITE ACCESS

PROPOSED STOCKPILE LOCATION

PROPOSED HAYBALE FILTER

OIF

OVERFLOW

PROPOSED MESH & GRAVEL INLET FILTER

- SEDIMENT & EROSION CONTROL NOTES
- ALL SEDIMENT CONTROL DEVICES ARE TO BE CONSTRUCTED, PLACED AND MAINTAINED IN ACCORDANCE WITH RESPECTIVE COUNCIL SPECIFICATIONS AND LANDCOM'S 'SOIL AND CONSTRUCTION' MANUAL.

ALL PERIMETER & SILTATION CONTROL MEASURES ARE TO BE PLACED PRIOR TO, OR AS THE FIRST STEP IN EARTH WORKS AND/OR CLEARING.

THE SEDIMENT & EROSION CONTROL PLAN MAY REQUIRE FUTURE ADJUSTMENT TO REFLECT CONSTRUCTION STAGING. IT IS ALSO THE CONTRACTORS RESPONSIBILITY TO PREPARE THEIR OWN SEDIMENT AND EROSION CONTROL PLAN WHICH SUITS THE DESIGNED CONSTRUCTION STAGING.

FILTRATION BUFFER ZONES ARE TO BE FENCED OFF AND ACCESS PROHIBITED TO ALL PLANT AND MACHINERY.

ALL TEMPORARY EARTH BERMS, DIVERSIONS & SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED & MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.

ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING. TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE LOCATION.

ALL TOPSOIL IS TO BE STOCKPILED ON SITE FOR REUSE (AWAY FROM TREES AND DRAINAGE LINES). MEASURES SHALL BE APPLIED TO PREVENT EROSION OF THE STOCKPILES.

ALL EARTHWORK AREAS SHALL BE ROLLED EACH EVENING TO SEAL THE EARTHWORKS.

ALL FILLS ARE TO BE LEFT WITH A LIP AT THE TOP OF THE SLOPE AT THE END. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND STRAW MULCHED WITHIN 14 DAYS OF COMPLETION OF FORMATION U.N.O. BY LANDSCAPE ARCHITECTS.

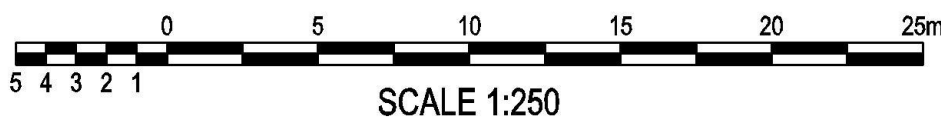
UPON COMPLETION OF ALL EARTHWORKS OR AS DIRECTED BY COUNCIL SOIL CONSERVATION TREATMENTS SHALL BE APPLIED SO AS TO RENDER AREAS THAT HAVE BEEN DISTURBED, EROSION PROOF WITHIN 14 DAYS.

EROSION AND SILT PROTECTION MEASURES ARE TO BE MAINTAINED AT ALL TIMES

MESH AND GRAVEL INLET FILTERS TO BE PLACED ON ALL COUNCIL PITS WITHIN 50 mm OF THE SITE.

NOTE:


THE SEDIMENT AND EROSION MEASURES SHOWN ON THIS DRAWING ARE FOR THE INITIAL EARTHWORK STAGES. AS CONSTRUCTION CONTINUES, IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE ALL PITS ARE PROTECTED WITH MESH AND GRAVEL FILTERS

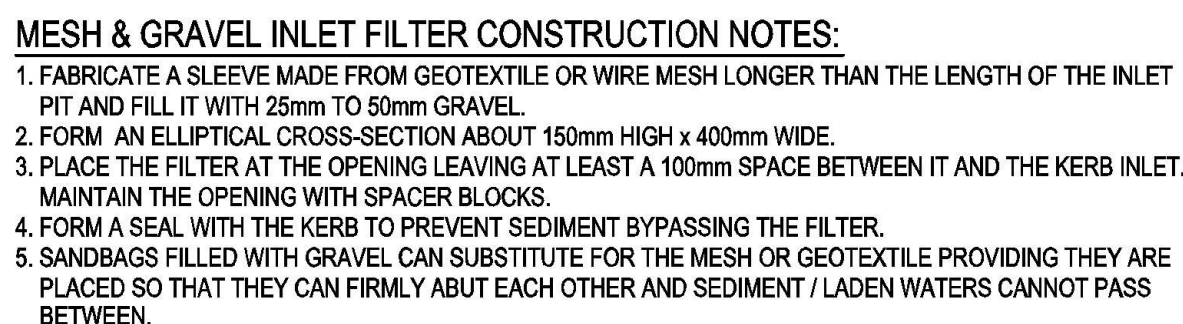
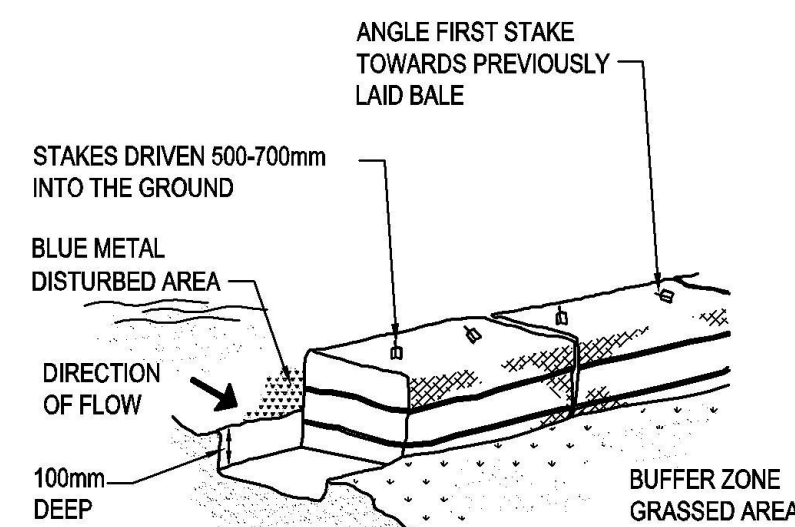
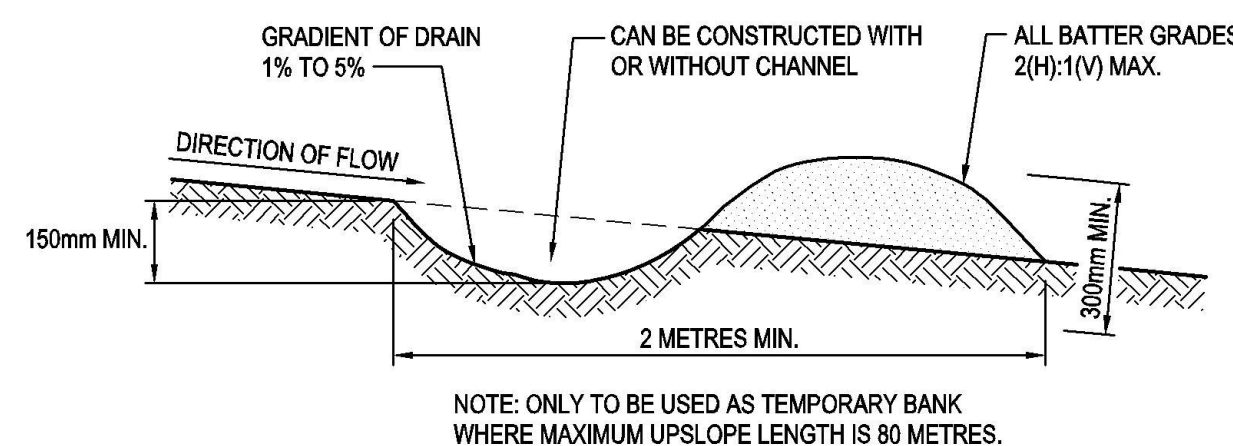
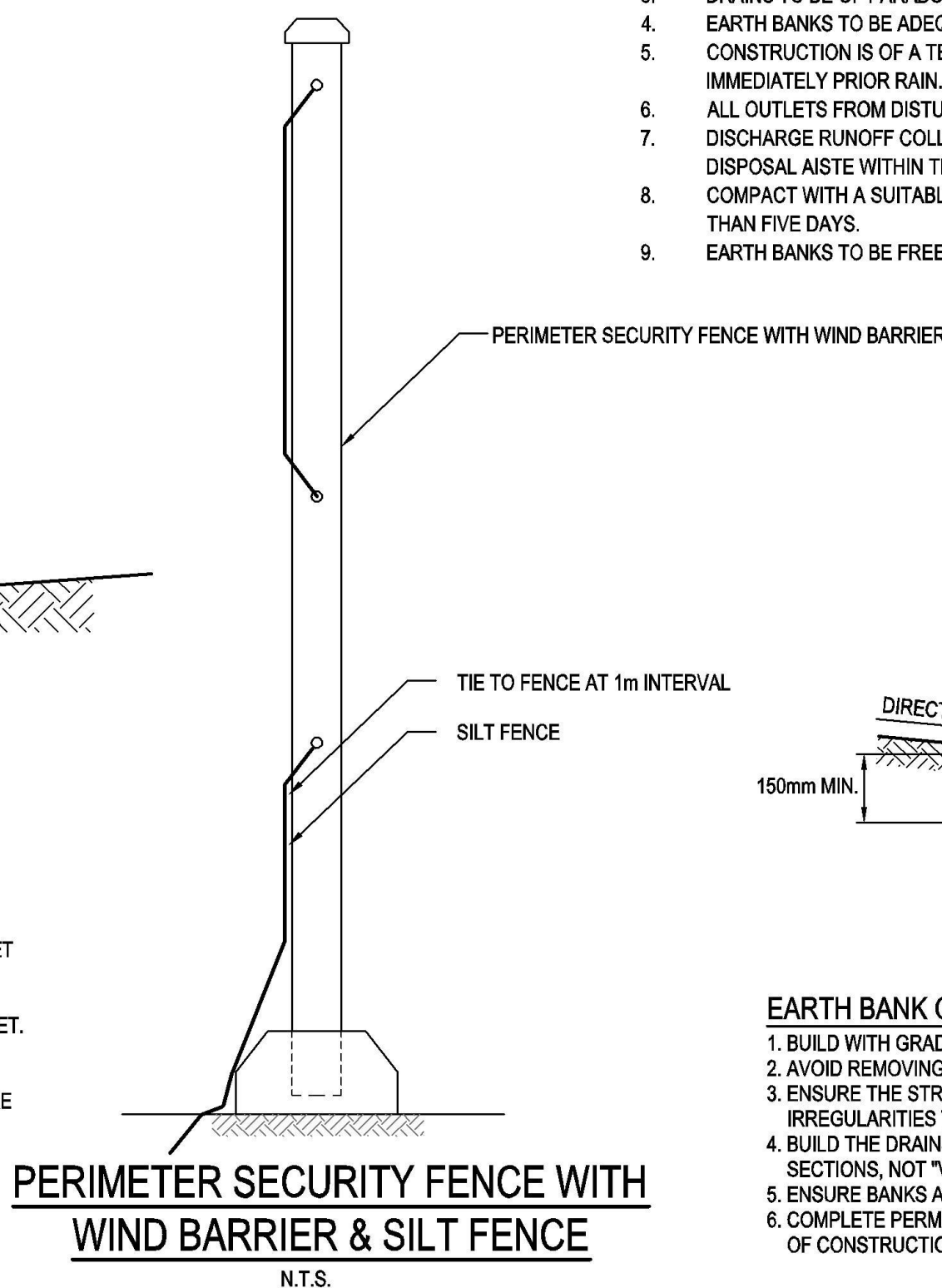
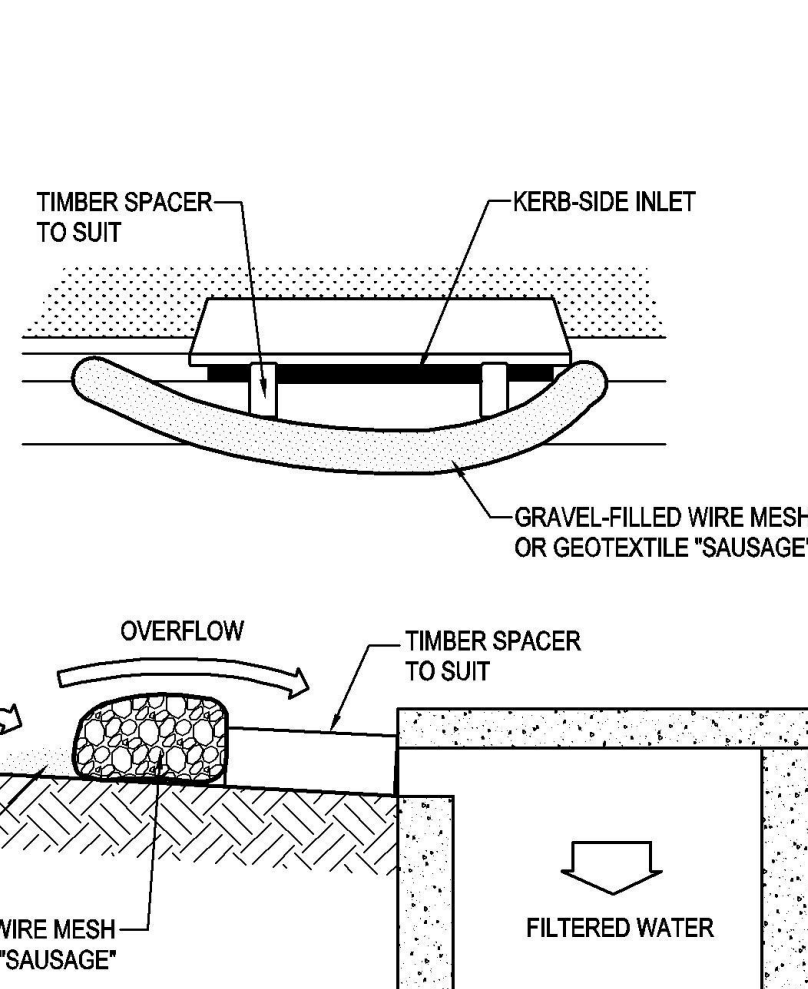
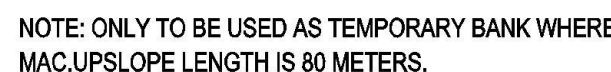
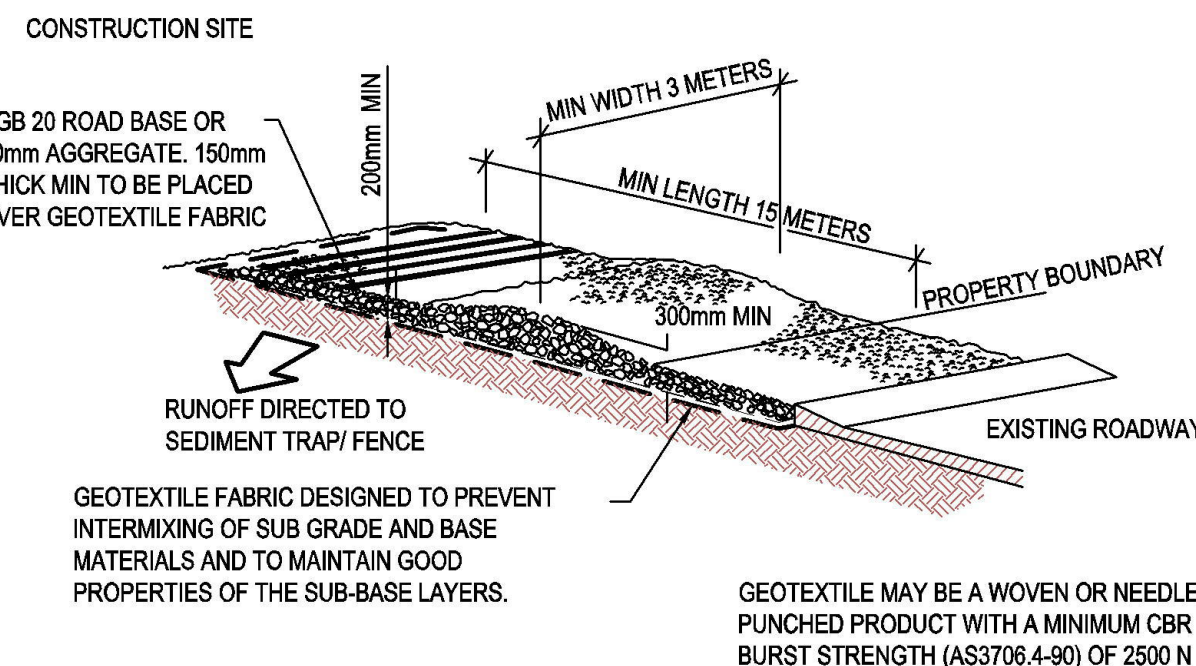
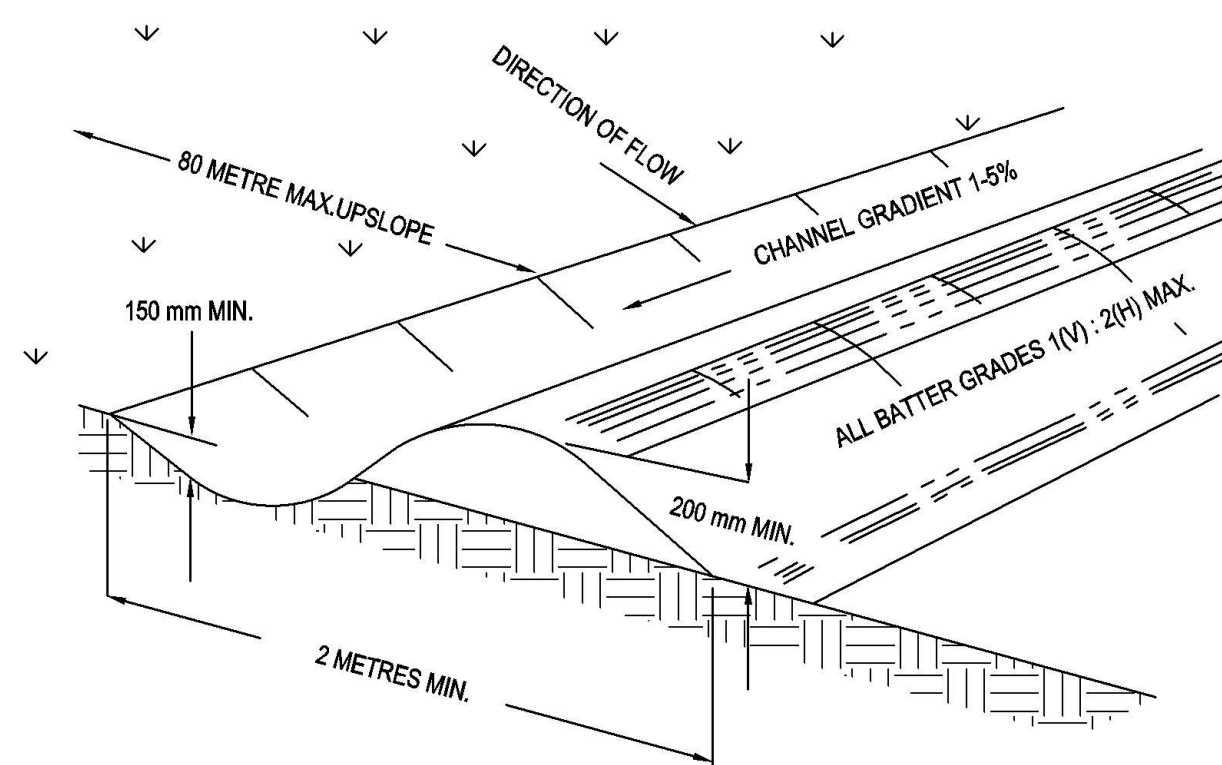
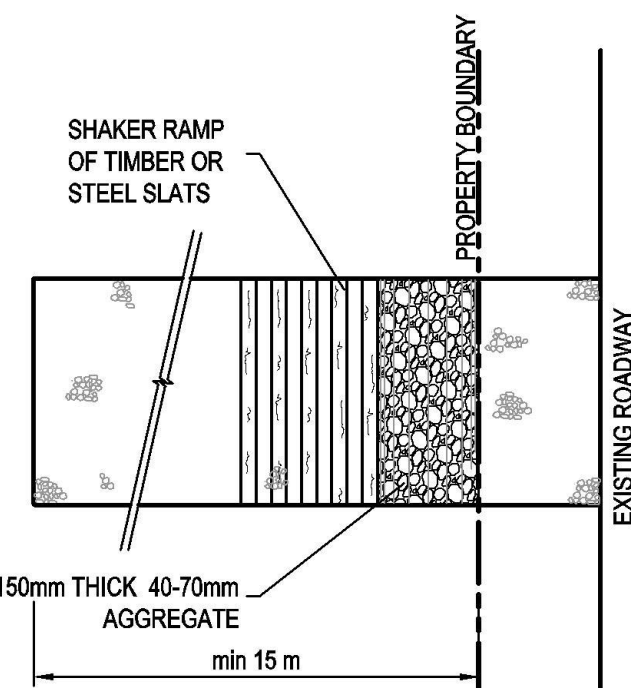
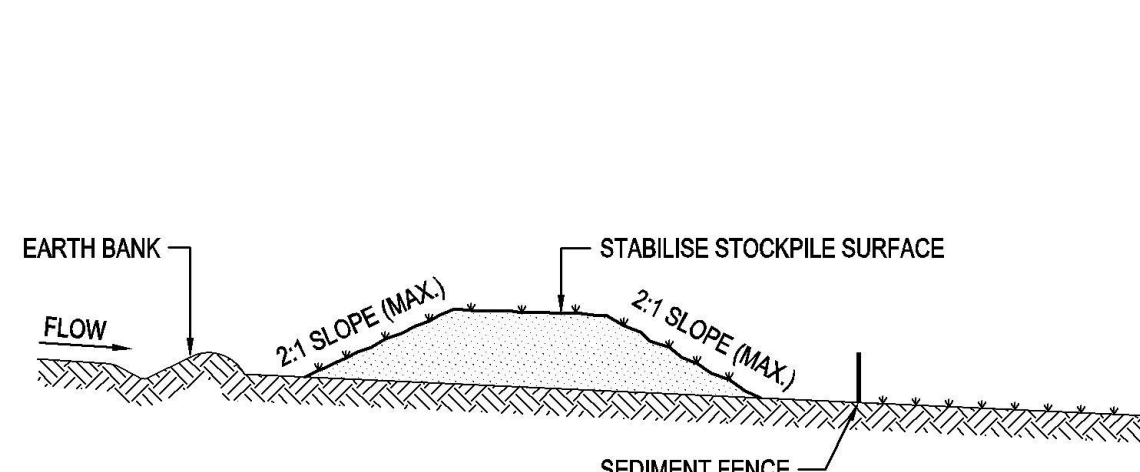
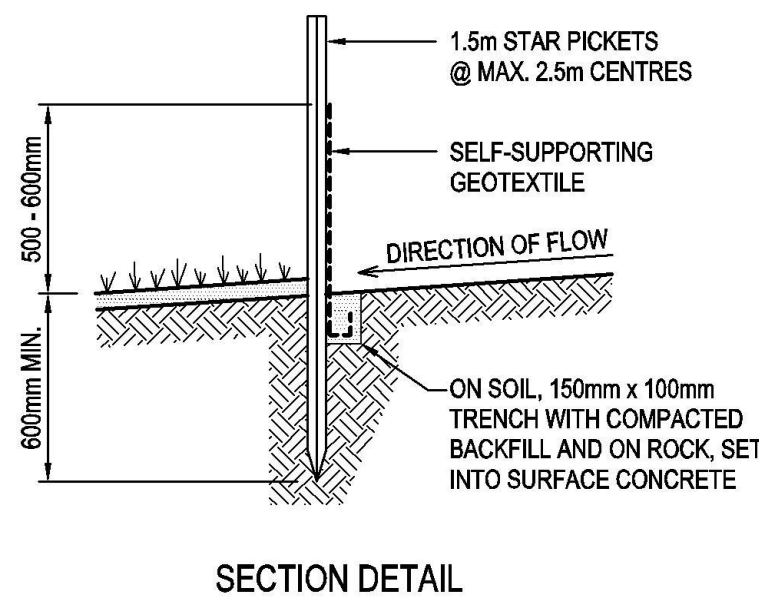


SEDIMENT EROSION PLAN

SCALE: 1:250

FOR DA ONLY

<div><div>SURVEY INFORMATION</div><div>SURVEYED BY LTS</div><div>DATUM: AHD</div><div>ORIGIN OF LEVELS:</div></div>																				<div><div>Client</div><div>HARVEY NORMAN</div><div>Architect</div><div>LEFFLER SIMES PTY LTD</div><div>This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.</div></div>										<div><div>Level 5, 79 Victoria Avenue Chatswood NSW 2067</div><div><div>Telephone +61 2 9417 8400</div><div>Facsimile +61 2 9417 8337</div><div>Email email@hhconsult.com.au</div><div>Web www.henryandhymas.com.au</div></div></div>										<div><div><div>henry&hymas</div></div></div>										<div><div>Project</div><div>PENRITH HOMEMAKER CENTRE CNR. MULGOA ROAD & WOLSELEY STREET, PENRITH</div><div>Title</div><div>SEDIMENT AND EROSION CONTROL PLAN</div></div>										<div><div><div><div>Drawn</div><div>M.Cerna</div></div><div><div>Designed</div><div>J.Gormly</div></div><div><div>Checked</div><div>A.Francis</div></div><div><div>Approved</div><div>A.Francis</div></div></div><div><div>Date</div><div>SEP 17</div></div><div><div>Scale</div><div>1:250 @A1</div></div></div>										<div><div><div>Drawing number</div><div>17691_DA_SE01</div></div><div><div>Revision</div><div>01</div></div></div>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													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SEDIMENT BASIN SIZING

1. THE SEDIMENT BASIN SHALL BE CONSTRUCTED ON A RATE PER HECTARE BASIS AND HAS BEEN IN ACCORDANCE WITH THE REQUIREMENTS OF THE LANDCOM MANUAL "MANAGING URBAN STORMWATER - SOILS AND CONSTRUCTION", FOR SEDIMENTATION TYPE D SOILS. THE DISTURBED AREA WITHIN THIS CATCHMENT AT ANY ONE TIME SHOULD BE LIMITED TO AN AREA FOR WHICH EACH SEDIMENT BASIN CAN HANDLE. EACH BASIN SHALL BE SIZED IN ACCORDANCE WITH THE TABLE BELOW.

SEDIMENT BASIN SIZING TYPE D SOILS	
VOLUMETRIC RUNOFF COEFFICIENT, CV	0.5 (APPENDIX F - TABLE F2)
75TH PERCENTILE 5 DAY TOTAL RAINFALL DEPTH, R	19.30 mm
CATCHMENT AREA, A	1 Ha (UNIT AREA)
SETTLING ZONE VOLUME (PER HECTARE) 10 CV A R	RL97.00 96.50 m³
DISTURBED CATCHMENT AREA	RL97.00 1 Ha (UNIT AREA)
R K L S P C	73 m³
SEDIMENT ZONE VOLUME (0.17 A (R K L S P C)/1.3	94m³ < 50% SETTLING VOL.ADOPT 48.3 m³ PER HECTARE
TOTAL SEDIMENT BASIN VOLUME REQUIRED :	144.8 m³/Ha

* (LANDCOM MANAGING URBAN STORMWATER MANUAL REFERENCE)

2. THE FOLLOWING DESIGN PARAMETERS HAVE BEEN ASSESSED FOR THE SITE

CONSTRAINT	VALUE	(SOURCE)*
RAINFALL EROSIONITY (R-FACTOR)	2250	APPENDIX B
LENGTH/SLOPE GRADIENT FACTOR, LS	0.65	APPENDIX A - TABLE A1
SOIL ERODIBILITY (K-FACTOR)	0.038	(ASSUMED BASED ON SOIL TYPE)
EROSION CONTROL PRACTICE FACTOR (P-FACTOR)	1.3 (COMPACTED)	APPENDIX A - TABLE A2
COVER FACTOR (C-FACTOR)	1.0 (DURING EARTHWORKS)	APPENDIX A - FIGURE A5
CALCULATED SOIL LOSS, A (RUSLE EQUATION)	73 t/ha/YR	A = R K LS P C
SOIL HYDROLOGIC GROUP	GROUP C	(ASSUMED BASED ON SOIL TYPE)
SEDIMENT TYPE	TYPE D	(ASSUMED BASED ON SOIL TYPE)
75TH PERCENTILE 5-DAY RAINFALL EVENT	19.3 mm (CAMDEN)	TABLE 6.3A RAINWATER OUTLET

* (LANDCOM MANAGING URBAN STORMWATER MANUAL REFERENCE)

BASIN MANAGEMENT

1. THE CAPTURED STORMWATER IN THE SETTLING ZONE SHOULD BE DRAINED TO MEET THE MINIMUM STORAGE CAPACITY REQUIRED WITHIN A FIVE (5) DAY PERIOD FOLLOWING RAINFALL, PROVIDED THE ACCEPTABLE WATER QUALITY (NFR) AND TURBIDITY HAVE BEEN ACHIEVED.
2. CHEMICAL FLOCCULANT SUCH AS GYPSUM MAY BE DOSED TO AID SETTLING WITHIN 24 HOURS OF CONCLUSION OF EACH STORM. THE APPLIED DOSING RATES SHOULD ACHIEVE THE TARGET QUALITY WITHIN 36 TO 72 HOURS OF THE STORM EVENT.
3. INSPECT THE SEDIMENT BASINS AFTER EACH RAINFALL EVENT AND/OR WEEKLY. ENSURE THAT ALL SEDIMENT IS REMOVED ONCE THE SEDIMENT STORAGE ZONE IS FULL. REFER TO PEGS INSTALLED IN BASINS IN CONFORMANCE WITH THE SWMP. ENSURE THAT OUTFLET AND EFFLUENT SPILLWAY WORKS ARE MAINTAINED IN A FULLY OPERATIONAL CONDITION AT ALL TIMES.

SOWING SEASON	SEED MIX
AUTUMN/WINTER	OATS@40KG/Ha + JAPANESE MILLET@10kg/Ha
SPRING/SUMMER	OATS@20kg/Ha + JAPANESE MILLET@20kg/Ha



NOTE : THESE PLANT SPECIES ARE FOR TEMPORARY REVEGETATION ONLY. THEY WILL ONLY PROVIDE PROTECTION FROM EROSION FOR SIX MONTHS. WHERE THE LOTS ARE TO BE LEFT UNDEVELOPED FOR A LONGER PERIOD, THE CONTRACTOR SHALL SEEK ADVICE FROM THE SITE SUPERINTENDENT AS TO MORE APPROPRIATE REVEGETATION METHODS.

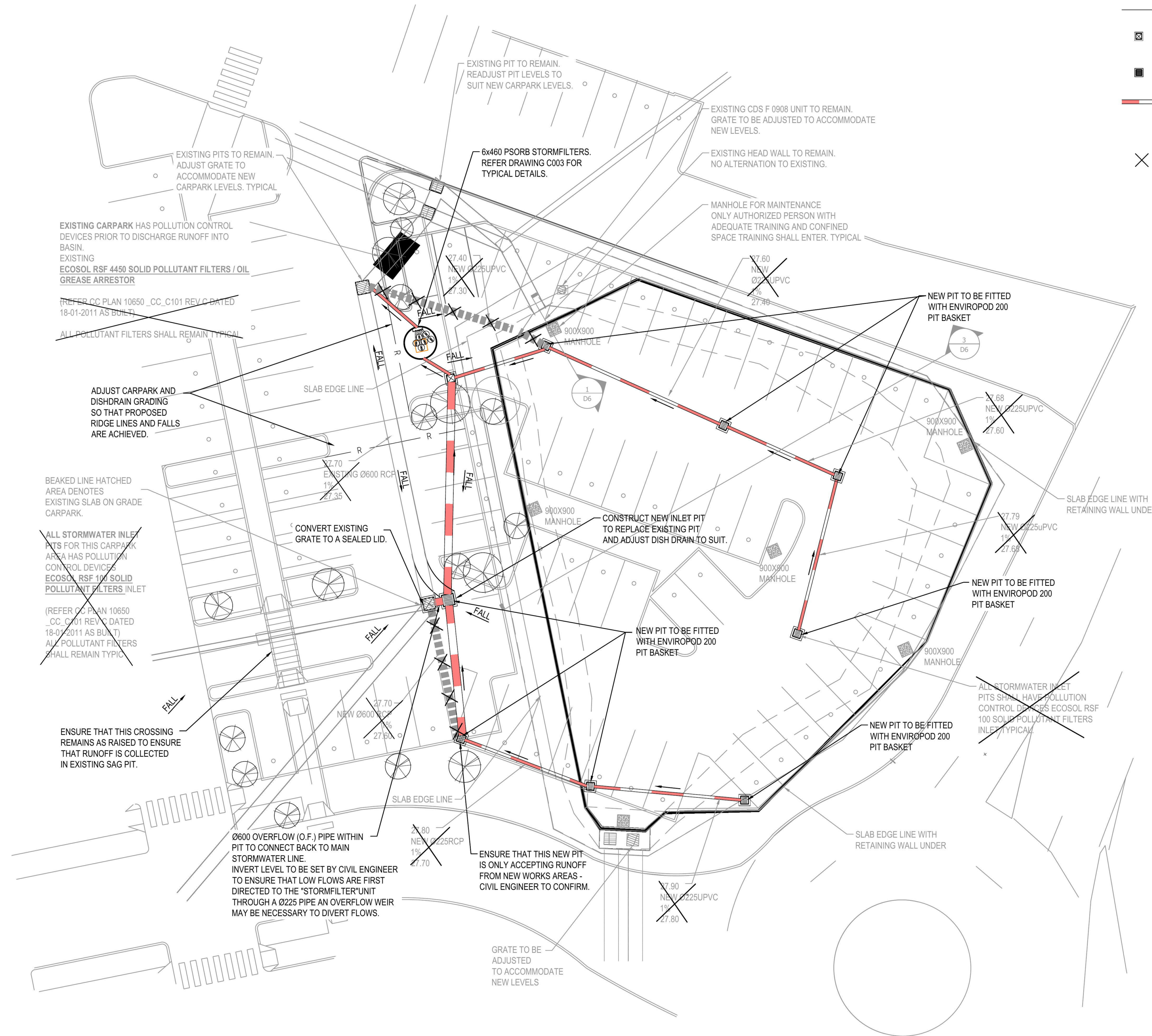
REVEGETATION IN ACCORDANCE WITH THE ABOVE TABLE WILL BE ENHANCED BY ADDING LIME AT A RATE OF 4kg/TONNE OF TOPSOIL AND 7.5kg/TONNE OF SUBSOIL.

4. THE LONG TERM GROUND COVER FACTORS FOR THE CONSTRUCTION WORKS IS NOT TO EXCEED THE FOLLOWING LIMITS

LAND	MAXIMUM C-FACTOR	REMARKS
WATERWAYS AND OTHER AREAS OF CONCENTRATED FLOWS, POST CONSTRUCTION	0.05	APPLIES AFTER TEN WORKING DAYS OF COMPLETION OF FORMATION AND BEFORE CONCENTRATED FLOWS ARE APPLIED. FOOT AND VEHICULAR TRAFFIC IS PROHIBITED IN THIS AREA AND 70% GROUND COVER IS REQUIRED.
STOCKPILES, POST CONSTRUCTION	0.10	APPLIES AFTER TEN WORKING DAYS FROM COMPLETION OF FORMATION. 60% GROUND COVER IS REQUIRED.
ALL LANDS, INCLUDING WATERWAYS AND STOCKPILES, DURING CONSTRUCTION.	0.15	APPLIES AFTER 20 DAYS OF INACTIVITY, EVEN THOUGH WORKS MAY BE INCOMPLETE. 50% GROUND COVER IS REQUIRED.

FOR DA ONLY

<div>SURVEY INFORMATION SURVEYED BY LTS DATUM: AHD ORIGIN OF LEVELS:</div>										<div>Client HARVEY NORMAN Address LEFFLER SIMES PTY LTD This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.</div>										<div>Level 5, 79 Victoria Avenue Cherrywood NSW 2067 Telephone +61 2 9417 8400 Facsimile +61 2 9417 8337 Email email@hthiconsult.com.au Web www.henryandhymas.com.au</div>		<div> hthiconsult Civil & Structural CONSULTANTS</div>		<div> henry&hymas</div>		<div>Project PENRITH HOMEMAKER CENTRE CNR. MULGOA ROAD & WOLSELEY STREET, PENRITH Title SEDIMENT AND EROSION CONTROL DETAILS</div>				<div>Drawn M.Cema Checked A.Francis Drawing number 17691_DA_SE02</div>		<div>Designed J.Gormly Approved A.Francis Revision 01</div>		<div>Date OCT 17 Scale AS NOTED @A1</div>	
<div>01 ISSUED FOR DA MC JG 25/10/2017</div>										<div>REVISION AMENDMENT DRAWN DESIGNED DATE AMENDMENT DRAWN DESIGNED DATE</div>																									



R —————

PROPOSED RIDGE LINE

PROPOSED JUNCTION PITS

PROPOSED SURFACE INLET PITS

PROPOSED STORMWATER PIPE AND O.F. FLOW

FALL ↓

DIRECTION OF FALLS FOR SURFACE GRADING

STORMWATER ELEMENTS OR NOTE
TO BE DELETED FROM DESIGN

NOTE:
THE PROPOSED CHANGES ARE A CONCEPT ONLY.
ALL STORMWATER PITS AND PIPES AS WELL AS INVERT
LEVELS ARE TO BE CONFIRMED BY THE CERTIFYING
DESIGN ENGINEER.

1. REFER GENERAL NOTES FOR SPECIFICATIONS
2. REFER TO ARCHITECTS DRAWINGS FOR ALL SET-OUT DIMENSIONS, LEVELS, SETDOWNS, HOBS AND FALLS. AS 3500.)

CONFIRM LOCATION, SIZE, CONDITION AND LEVELS OF ALL EXISTING SERVICES PRIOR COMMENCEMENT OF WORK.

ALL WORK TO BE IN ACCORDANCE WITH SPECIFICATION, AUTHORITIES
REQUIREMENTS, BCA AND RELEVANT AUSTRALIAN STANDARDS(IN
PARTICULARLY AS 3500.)

DISCONNECT, CAP OFF AND REMOVE ALL EXISTING REDUNDANT SERVICES TO AUTHORITIES APPROVAL.

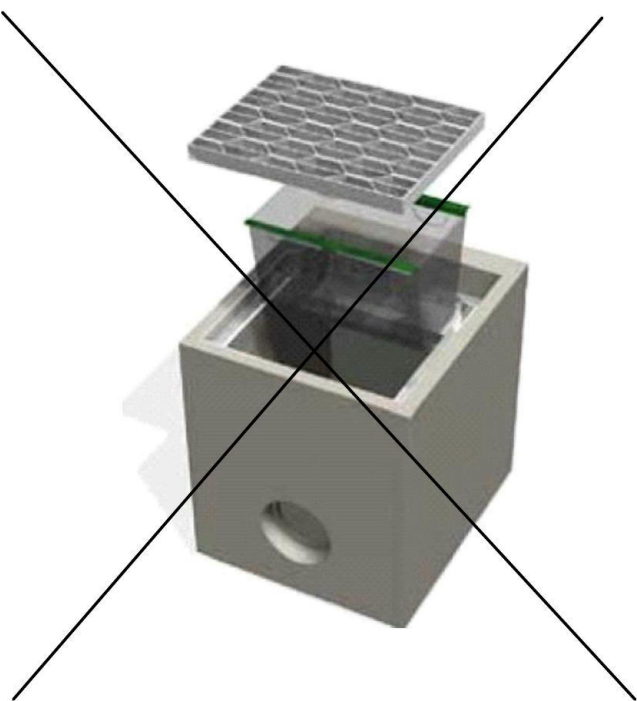
ALL DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL AND OTHERS CONSULTANTS DOCUMENTS. ALL DISCREPANCIES SHALL BE REFERRED TO THE PROJECT MANAGER BEFORE PROCEEDING WITH THE WORK.

LOCATION OF ALL PIPEWORK IS DIAGRAMMATIC ONLY. FINAL LOCATION
TO BE CO-ORDINATED ON SITE AND APPROVED BY THE PROJECT
MANAGER PRIOR TO COMMENCEMENT OF ANY WORK.

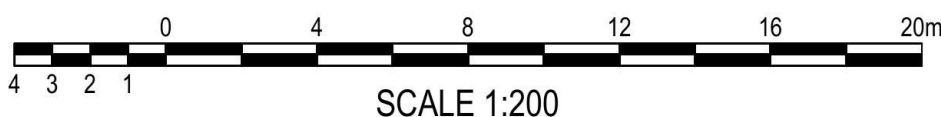
EXISTING BASIN VOLUME	1,085m ³
PROPOSED ADDITIONAL IMPERVIOUS AREA OVER EXISTING BASIN (PROPOSED CARPARK)	1,275m ²
ADDITIONAL VOLUME REQUIRED DUE TO ADDITIONAL IMPERVIOUS (SSR = 280m ³ /ha)	35.7m ³
TOTAL BASIN VOLUME PROVIDED	1,120.7m ³

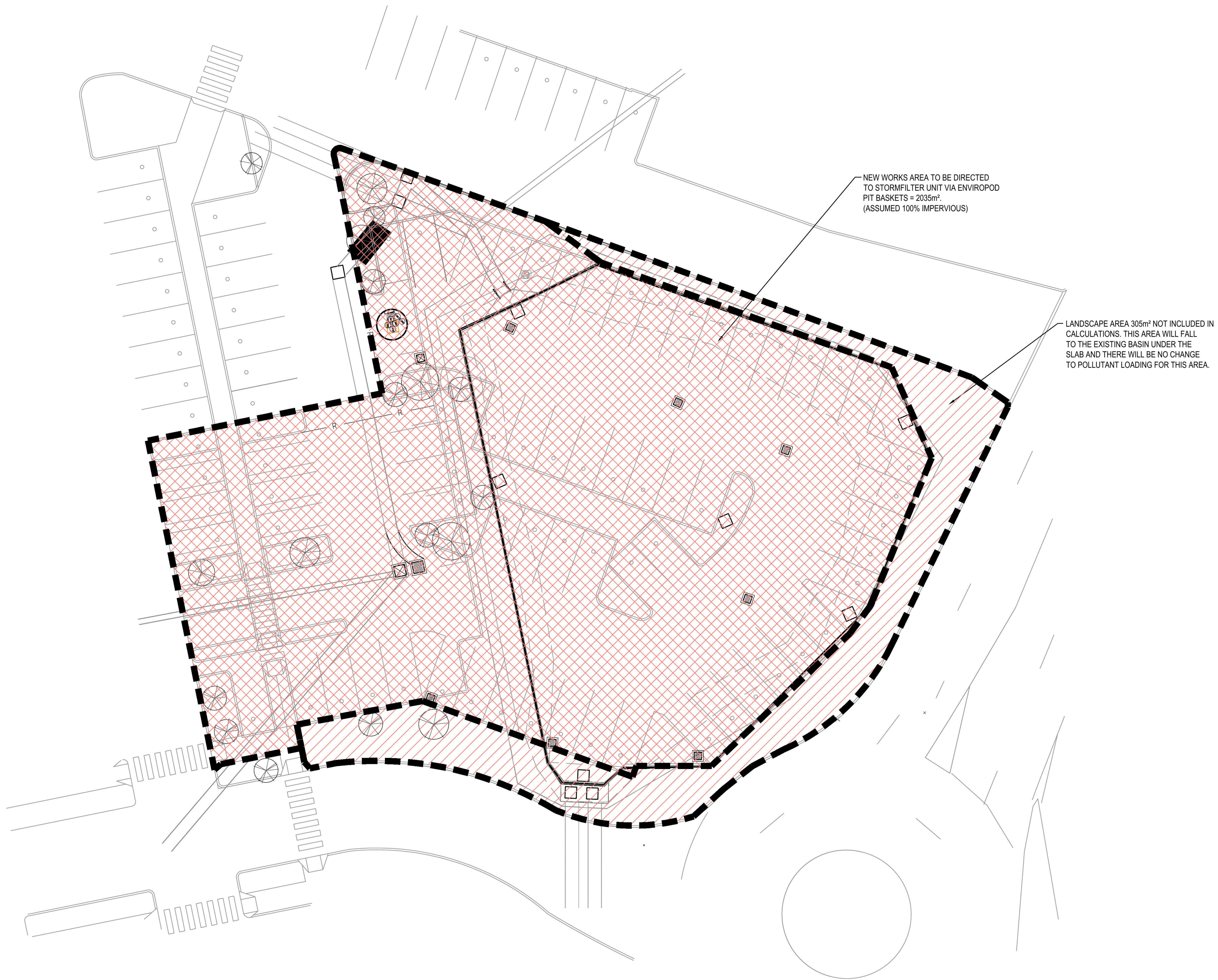
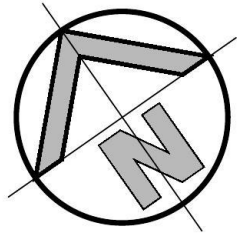
STORMWATER MANAGEMENT CONSIDERATION

- NEW CARPARK TO MAINTAIN EXISTING BASIN
EXISTING BASIN VOLUME TO BE INCREASED TO ACCOMMODATE ADDITIONAL IMPERVIOUS
AREA
POLLUTION CONTROL DEVICE TO BE UPGRADED TO ACCOMMODATE ADDITIONAL
IMPERVIOUS AREA



SCALE 1:200



[illegible]



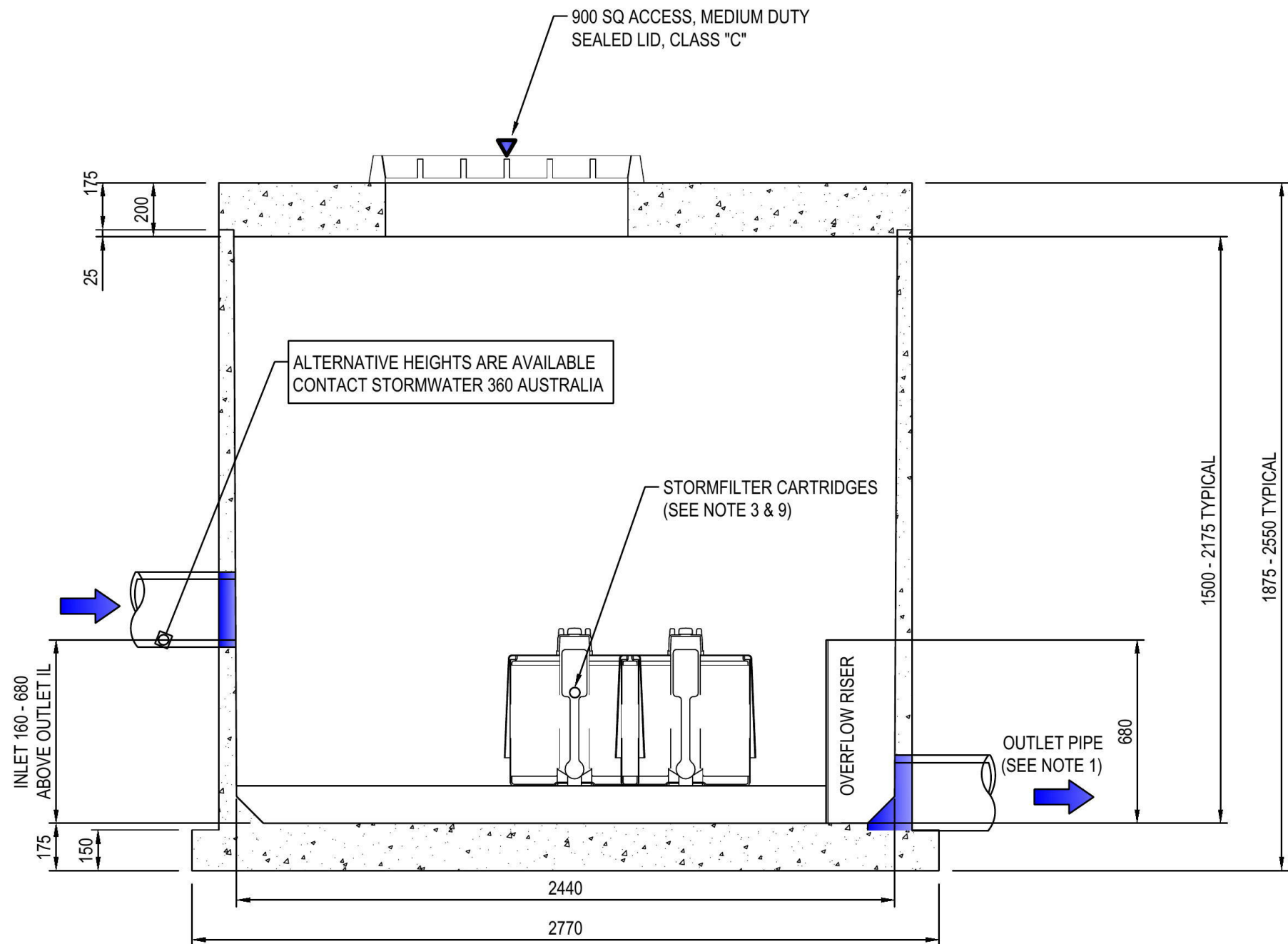
MUSIC MODELLING CATCHMENT PLAN
SCALE 1:200



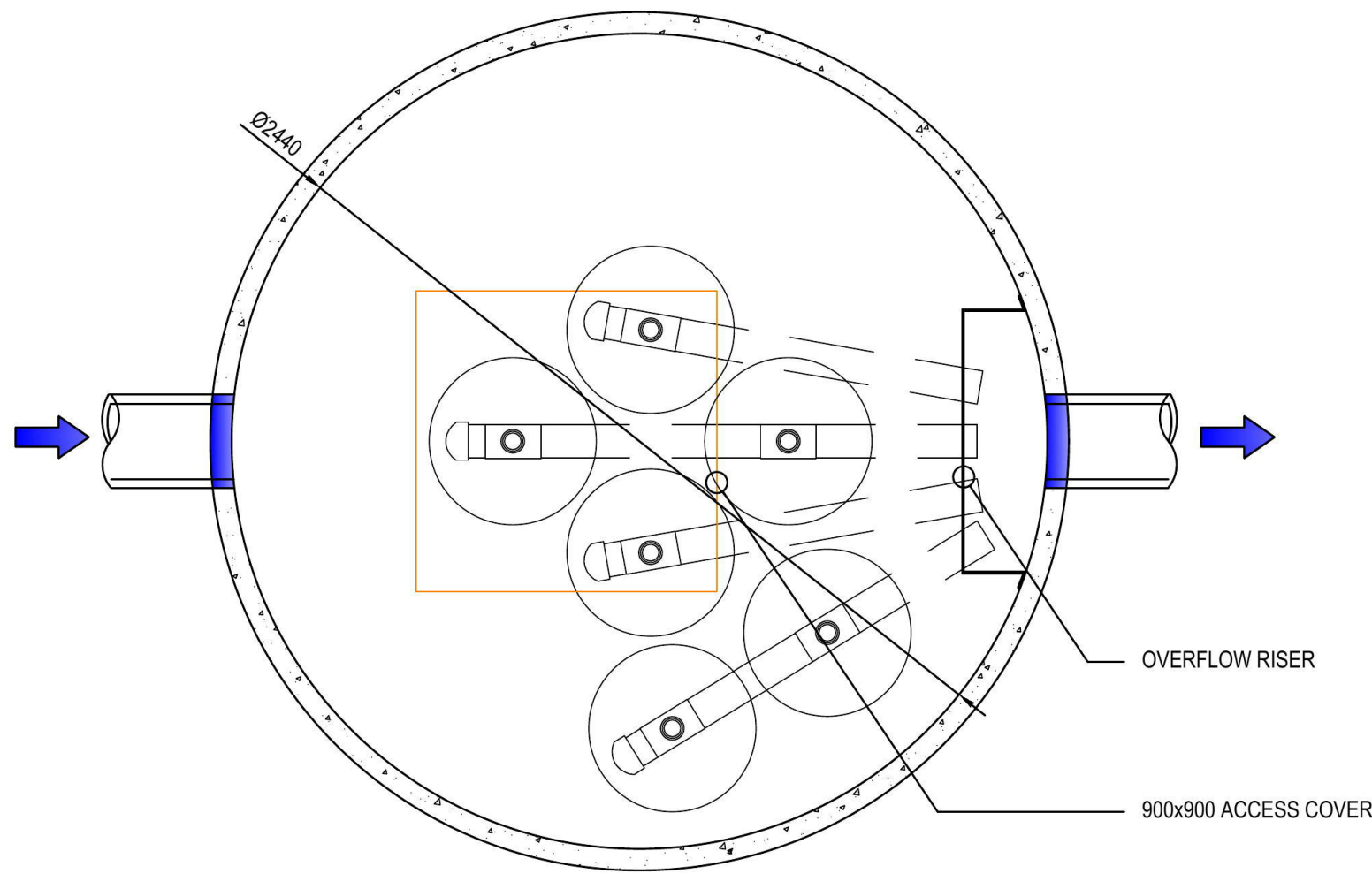
FOR INFORMATION ONLY

										Client		Level 5, 79 Victoria Avenue Chatswood NSW 2067		Telephone +61 2 9417 8400 Facsimile +61 2 9417 8337 Email email@hhconsult.com.au Web www.henryandhymas.com.au			Project		M.Stimova		Designed T. Dempsey		Date APRIL 2016																										
										Architect							Checked T.Dempsey		Approved A. Francis		Scale 1:200 @ A1																												
										LEFFLER SIMES ARCHITECTS		This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.					Title MUSIC MODELLING CATHCMENT PLAN		Drawing number 15607_SK_C002		Revision 01																												
01 ISSUED FOR INFORMATION ONLY										MS		TD		13.04.2016																																			
REVISION										AMENDMENT										DRAWN										DESIGNED										DATE									

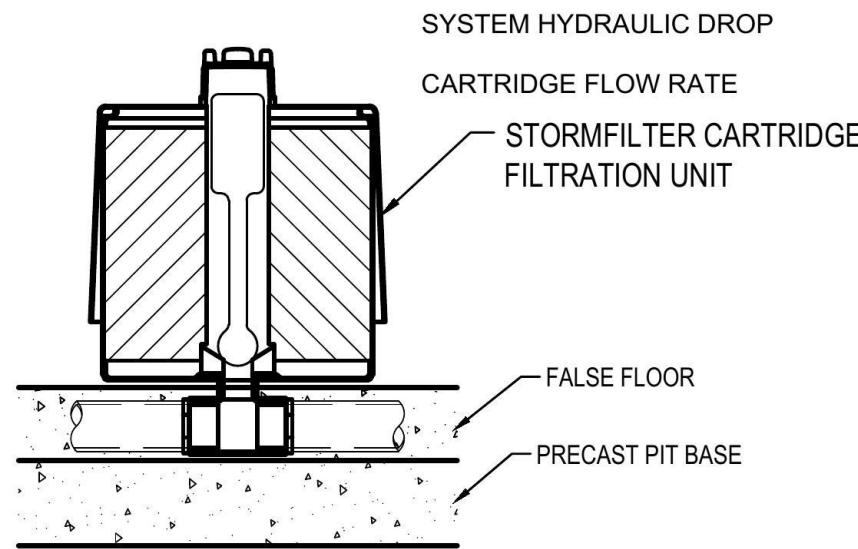
STORMFILTER DESIGN TABLE						
• STORMFILTER TREATMENT CAPACITY VARIES BY NUMBER OF FILTER CARTRIDGES INSTALLED AND BY REGION SPECIFIC INTERNAL FLOW CONTROLS. CONVEYANCE CAPACITY IS RATED AT 80L/S. • THE STANDARD CONFIGURATION IS SHOWN. ACTUAL CONFIGURATION OF THE SPECIFIED STRUCTURE(S) PER CIVIL ENGINEER WILL BE SHOWN ON SUBMITTAL DRAWING(S). • ALL PARTS PROVIDED AND INTERNAL ASSEMBLY BY STORMWATER360 AUSTRALIA UNLESS OTHERWISE NOTED.						
CARTRIDGE HEIGHT	690		460		310	
SYSTEM HYDRAULIC DROP (H - REQ'D. MIN.)	930		700		550	
TREATMENT BY MEDIA SURFACE AREA L/S/m2	1.4	0.7	1.4	0.7	1.4	0.7
CARTRIDGE FLOW RATE (L/s)	1.42	0.71	0.95	0.47	0.63	0.32



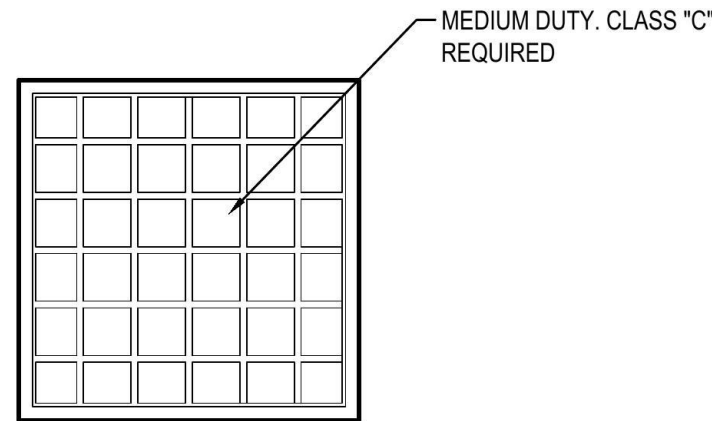
MANHOLE STORMFILTER SECTION



MANHOLE STORMFILTER PLAN



STORMFILTER CARTRIDGE DETAIL



900x900 ACCESS COVER
SCALE 1:20

GENERAL NOTES

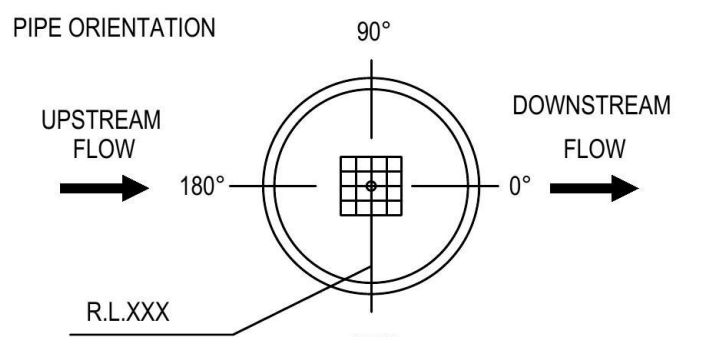
1. INLET AND OUTLET PIPING SHALL BE SPECIFIED BY SITE CIVIL ENGINEER (SEE PLANS) AND PROVIDED BY CONTRACTOR. STORMFILTER IS PROVIDED WITH OPENINGS AT INLET AND OUTLET LOCATIONS.
2. IF THE PEAK FLOW RATE, AS DETERMINED BY THE SITE CIVIL ENGINEER, EXCEEDS THE PEAK HYDRAULIC CAPACITY OF THE PRODUCT, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED. PLEASE CONTACT STORMWATER360 FOR OPTIONS.
3. THE FILTER CARTRIDGE(S) ARE SIPHON-ACTUATED AND SELF-CLEANING. THE STANDARD DETAIL DRAWING SHOWS THE MAXIMUM NUMBER OF CARTRIDGES. THE ACTUAL NUMBER SHALL BE SPECIFIED BY THE SITE CIVIL ENGINEER ON SITE PLANS OR IN DATA TABLE BELOW. PRECAST STRUCTURE TO BE CONSTRUCTED IN ACCORDANCE WITH AS3600.
4. SEE STORMFILTER DESIGN TABLE FOR REQUIRED HYDRAULIC DROP. FOR SHALLOW, LOW DROP OR SPECIAL DESIGN CONSTRAINTS, CONTACT STORMWATER360 FOR DESIGN OPTIONS.
5. ALL WATER QUALITY PRODUCTS REQUIRE PERIODIC MAINTENANCE AS OUTLINED IN THE O&M GUIDELINES. PROVIDE MINIMUM CLEARANCE FOR MAINTENANCE ACCESS.
6. STRUCTURE AND ACCESS COVERS DESIGNED TO MEET AUSTRROADS T44 LOAD RATING WITH 0.2m FILL MAXIMUM.
7. THE STRUCTURE THICKNESS SHOWN ARE FOR REPRESENTATIONAL PURPOSES AND VARY REGIONALLY.
8. ANY BACKFILL DEPTH, SUB-BASE, AND OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY SITE CIVIL ENGINEER.
9. CARTRIDGE HEIGHT IS 460mm (SHOWN). CARTRIDGE HEIGHT AND ASSOCIATED DESIGN PARAMETERS PER STORMFILTER DESIGN TABLE.
10. STORMFILTER BY STORMWATER360 AUSTRALIA : PHONE : 1300 354 722 OR www.stormwater360.com.au

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID	XXX
WATER QUALITY FLOW RATE (L/S)	XXX
PEAK FLOW RATE (L/S)	XXX
RETURN PERIOD OF PEAK FLOW (yrs)	XXX
# OF CARTRIDGES REQUIRED (8-22)	XXX
CARTRIDGE HEIGHT (310, 460 or 690mm)	460
MEDIA TYPE (PERLITE, PERLITE/ZEOLITE OR ZPG)	ZPG

PRECAST VAULT WEIGHT	XXX kg
PRECAST LID WEIGHT	XXX kg

PIPE DATA:	I.L.	MATERIAL	DIAMETER
INLET PIPE #1	XXX	XXX	XXX
INLET PIPE #2	N/A	N/A	N/A
OUTLET PIPE	XXX	XXX	XXX




LADDER	YES/NO
ANTI-FLOTATION BALLAST	N/A
	N/A

NOTES/SPECIAL REQUIREMENTS:



FOR INFORMATION ONLY

												Client		Level 5, 79 Victoria Avenue Chatswood NSW 2067		 henry&hymas	Project CARPARK EXTENSION WATER QUALITY TREATMENT PROPOSAL		Drawn M.Stimova	Designed T.Dempsey	Date APRIL 2016
												CALARDU PENRITH PTY.LTD.		 Telephone +61 2 9417 8400 Facsimile +61 2 9417 8337 Email email@hhconsult.com.au Web www.henryandhymas.com.au	Architect		Checked T.Dempsey	Approved A.Francis	Scale NTS		
												LEFFLER SIMES ARCHITECTS			Title 6 CARTRIDGE PSORB STORMFILTER SYSTEM Ø 2440 CONCRETE MANHOLE		Drawing number 15607_SK_C003		Revision 01		
												This drawing and design remains the property of Henry & Hymas and may not be copied in whole or in part without the prior written approval of Henry & Hymas.									
01	ISSUED FOR INFORMATION ONLY					MS	TD	13.04.2016													
REVISION	AMENDMENT					DRAWN	DESIGNED	DATE	REVISION	AMENDMENT					DRAWN	DESIGNED	DATE				