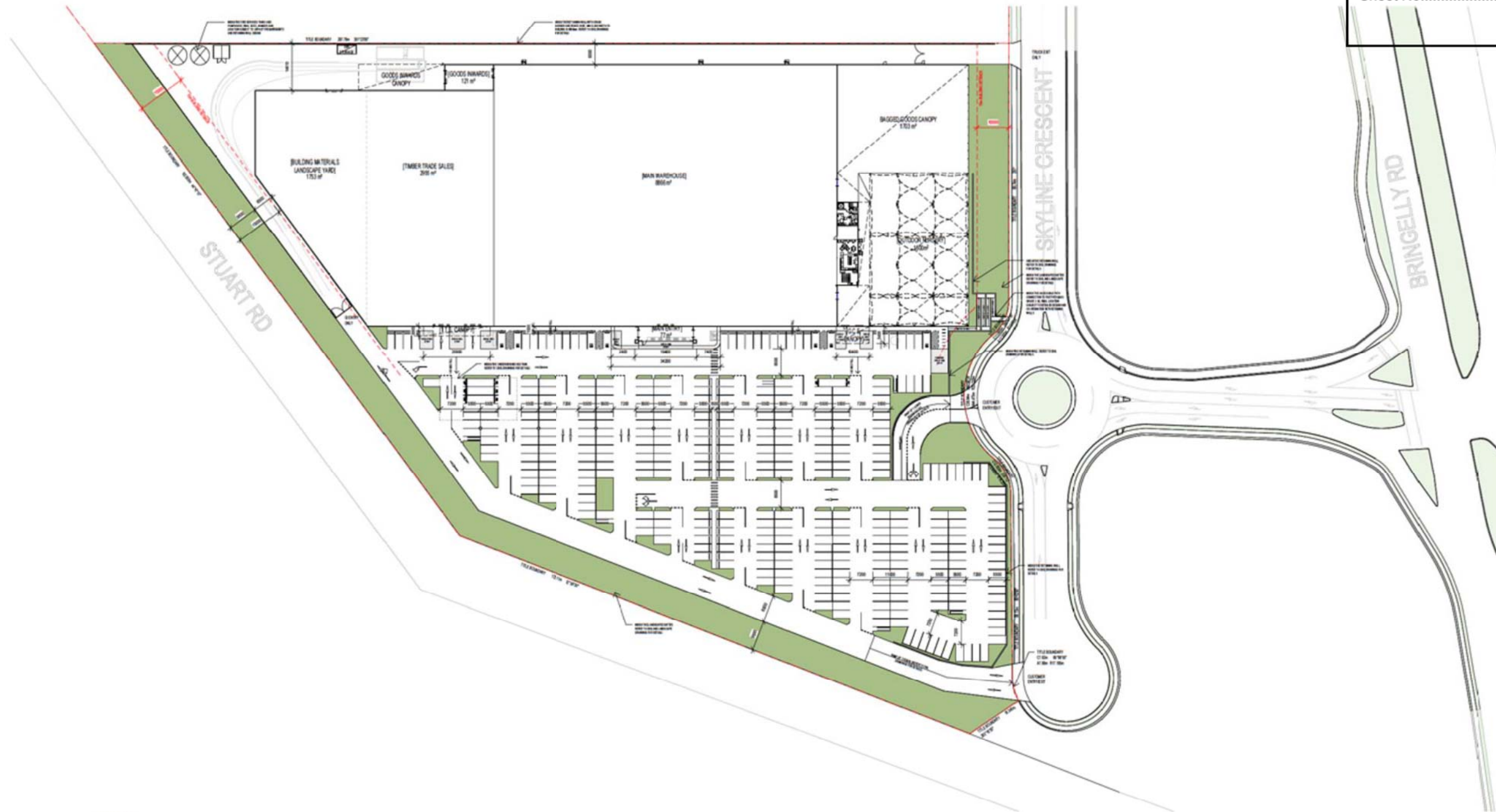




SITE CONTEXT PLAN
1:2000@A0



SITE PLAN
1:500 @ A0

AREA SCHEDULE	
MAIN WAREHOUSE	8,800m ²
GOODS INWARDS	120m ²
AMENITIES	100m ²
MAIN ENTRY	75m ²
TOTAL WAREHOUSE AREA	9,020m ²
MEZZANINE OFFICES	200m ²
TIMBER TRADE SALES	2,800m ²
ONLY	1,700m ²
TOTAL TIMBER TRADE AREA	4,500m ²
GEA	14,500m ²
OUTDOOR NURSERY	1,500m ²
BAGGED GOODS CANOPY	1,700m ²
TOTAL NURSERY AREA	3,200m ²
TOTAL RETAIL AREA	17,700m ²
TOTAL LAND AREA	61,800m ²
SITE COVERAGE AREA	17,900m ²
SITE COVERAGE %	41.8%

CARPARK SCHEDULE	
STANDARD CARPARKS (INCL STAFF)	362
DISABLED CARPARKS	7
TRAILER BAYS	4
TOTAL SITE CARPARKS	373
TROLLEY BAYS	6
BIKE PARKS	12

15.10.2019	P1	WORKSHEET FOR MATHEMATICS	1
15.10.2019	P2	WORKSHEET FOR MATHEMATICS	2
15.10.2019	P3	WORKSHEET FOR MATHEMATICS	3
15.10.2019	P4	WORKSHEET FOR MATHEMATICS	4
15.10.2019	P5	WORKSHEET FOR MATHEMATICS	5
15.10.2019	P6	WORKSHEET FOR MATHEMATICS	6
15.10.2019	P7	WORKSHEET FOR MATHEMATICS	7
15.10.2019	P8	WORKSHEET FOR MATHEMATICS	8
15.10.2019	P9	WORKSHEET FOR MATHEMATICS	9
15.10.2019	P10	WORKSHEET FOR MATHEMATICS	10
15.10.2019	P11	WORKSHEET FOR MATHEMATICS	11
15.10.2019	P12	WORKSHEET FOR MATHEMATICS	12
15.10.2019	P13	WORKSHEET FOR MATHEMATICS	13
15.10.2019	P14	WORKSHEET FOR MATHEMATICS	14
15.10.2019	P15	WORKSHEET FOR MATHEMATICS	15
15.10.2019	P16	WORKSHEET FOR MATHEMATICS	16
15.10.2019	P17	WORKSHEET FOR MATHEMATICS	17
15.10.2019	P18	WORKSHEET FOR MATHEMATICS	18
15.10.2019	P19	WORKSHEET FOR MATHEMATICS	19
15.10.2019	P20	WORKSHEET FOR MATHEMATICS	20

CONTRACTOR TO CHECK ALL
DIMENSIONS ON SITE BEFORE
COMMENCING ANY WORK OR
PREPARING ANY SHOP
DRAWINGS
UNLESS OTHERWISE AGREED
THE DRAWING AND THE
INTELLECTUAL PROPERTY
CONTAINED HEREIN IS
REMAINS THE PROPERTY OF

PRELIMINARY

ARCHITECT
Michael Carr Architects
18 Top Street, Suite 1000
Sydney NSW 2000
02 9550 0000
michael@mcarrarchitects.com.au

CLIENT
BUNNINGS warehouse

PROJECT
BUNNINGS WAREHOUSE
LOT 3 (BRINGELLY ROAD
BUSINESS HUB), SKYLINE DRIVE
HORNINGSEA PARK NSW 2171

ARCHITECTURAL
DRAWING TITLE
SITE PLAN

SCALE	As indicated @ A0	PROJECT No.	18139
DATE	JUNE 2019	DESIGNATION	THIS DRAWING HAS BEEN REVIEWED & APPROVED BY:
FILE		DRAWING No.	TP-01
DESIGNED		REVISION	P5
DRAWN	CY		
CHECKED	AZ		



Sheet No. 3 of 17

10

PROJECT No. 18139	
APPLICATION AND DRAWINGS HAVE BEEN REVIEWED & APPROVED BY:	
DRAWING No. TP-02	REVISED BY P4



Sheet No. 4 of 17

PROJECT No.	18139	
VERIFICATION THIS DRAWING HAS BEEN REVIEWED & CORRECTED BY:		
DRAWING No.	TD-03	REVISION P3



PROPOSED FACILITY
LOT 3, BRINGELLY ROAD, HORNINGSEA PARK, NSW 2171
CIVIL DRAWINGS FOR DEVELOPMENT APPLICATION

DRAWING LIST

DRAWING NO.	DRAWING TITLE
C011994.06-DA 10	DRAWING LIST & GENERAL NOTES
C011994.06-DA 20	EROSION AND SEDIMENT CONTROL PLAN
C011994.06-DA 25	EROSION AND SEDIMENT CONTROL DETAILS
C011994.06-DA 41	STORMWATER DRAINAGE PLAN - SHEET 1
C011994.06-DA 42	STORMWATER DRAINAGE PLAN - SHEET 2
C011994.06-DA 45	STORMWATER DRAINAGE DETAILS - SHEET 1
C011994.06-DA 46	STORMWATER DRAINAGE DETAILS - SHEET 2
C011994.06-DA 51	FINISHED LEVELS PLAN - SHEET 1
C011994.06-DA 52	FINISHED LEVELS PLAN - SHEET 2

GENERAL NOTES:

- 61 THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- 62 ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT STANDARDS AUSTRALIA CODES AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.
- 63 ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE BUILDER ON SITE. ENGINEER'S DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS. ENGINEER'S DRAWINGS ISSUED IN ANY ELECTRONIC FORMAT MUST NOT BE USED FOR DIMENSIONAL SETOUT. REFER TO THE ARCHITECT'S DRAWINGS FOR ALL DIMENSIONAL SETOUT INFORMATION.
- 64 DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERTRESSED. TEMPORARY BRACING SHALL BE PROVIDED BY THE BUILDER TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
- 65 UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES.
- 66 ALL WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH ACCEPTABLE SAFETY STANDARDS & APPROPRIATE SAFETY SIGNS SHALL BE INSTALLED AT ALL TIMES DURING THE PROGRESS OF THE JOB.
- 67 DRAWING TO BE READ IN CONJUNCTION WITH ENGINEERING REPORT C011994. 01-05-97

ELECTRONIC INFORMATION NOTES:

1. THE ISSUED DRAWINGS IN HARD COPY OR PDF FORMAT TAKE PRECEDENCE OVER ANY ELECTRONICALLY ISSUED INFORMATION, LAYOUTS OR DESIGN MODELS.
2. THE CONTRACTOR'S DIRECT AMENDMENT OR MANIPULATION OF THE DATA OR INFORMATION THAT MIGHT BE CONTAINED WITHIN AN ENGINEER-SUPPLIED DIGITAL TERRAIN MODEL AND ITS SUBSEQUENT USE TO UNDERTAKE THE WORKS WILL BE SOLELY AT THE DISCRETION OF AND THE RISK OF THE CONTRACTOR.
3. THE CONTRACTOR IS REQUIRED TO HIGHLIGHT ANY DISCREPANCIES BETWEEN THE DIGITAL TERRAIN MODEL AND INFORMATION PROVIDED IN THE CONTRACT AND/OR DRAWINGS AND IS REQUIRED TO SEEK CLARIFICATION FROM THE SUPERINTENDENT.
4. THE ENGINEER WILL NOT BE LIABLE OR RESPONSIBLE FOR THE POSSIBLE ON-GOING NEED TO UPDATE THE DIGITAL TERRAIN MODEL, SHOULD THERE BE ANY AMENDMENTS OR CHANGES TO THE DRAWINGS OR CONTRACT INITIATED BY THE CONTRACTOR.

FINISHED LEVELS PLAN NOTES:

1. LEVELS DATUM IS A.H.D.
2. ALL CONTOUR LINES & SPOT LEVELS INDICATE FINISHED PAVEMENT LEVELS U.N.O. ON PLAN.
3. THE MAJOR CONTOUR INTERVAL IS 0.5m.
4. THE MINOR CONTOUR INTERVAL IS 0.1m.
5. MINIMUM PAVEMENT GRADE IS TO BE 1:100 (1%).
6. MAXIMUM PAVEMENT GRADE IS TO BE 1:20 (5%) IN CARPARKING AREAS AND 1:25 (4%) ELSEWHERE.
7. MAXIMUM RAMP GRADES ARE TO BE 1:12 (8.3%) U.N.O. ON PLAN.
8. PROVIDE MINIMUM 3.0m LONG TRANSITION WHERE CHANGES GRADE EXCEED 1:20 (5%).
9. PERMANENT BATTER SLOPES ARE TO HAVE A MAXIMUM GRADE OF 1:30.
10. ALL BATTER SLOPE WITH GRADES AT OR EXCEEDING 1:4 H ARE TO BE TURFED IMMEDIATELY OR APPROPRIATE EROSION CONTROL IS TO BE PROVIDED TO THE SATISFACTION OF THE ENGINEER.
11. ALL FOOTPATHS ARE TO FALL AWAY FROM THE BUILDING AT 2.5% NOMINAL GRADE.
12. ALL PAVEMENTS ARE TO BE SET AT 50mm BELOW THE FINISHED FLOOR LEVEL OF THE WAREHOUSE AND OFFICE AREAS.

EROSION CONTROL NOTES

ALL CONTROL WORK INCLUDING DIVERSION BANKS AND CATCH DRAINS, V-DRAINS AND SILT FENCES SHALL BE COMPLETED DIRECTLY FOLLOWING THE COMPLETION OF THE EARTHWORKS.

1. SILT FENCES AND SILT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE OUTSIDE TO POND WATER.
2. HAY BALE BARRIERS AND GEOFABRIC FENCES ARE TO BE CONSTRUCTED TO THE TOP OF BATTER, PRIOR TO COMMENCEMENT OF EARTHWORKS, IMMEDIATELY AFTER CLEARING OF VEGETATION AND BEFORE REMOVAL OF TOP SOIL.
3. ALL TEMPORARY EARTH BERMS, DIVERSION AND SILT DAM EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDED AND MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED.
4. CLEARED AREA IS TO BE DIVERTED AWAY FROM DISTURBED GROUND AND INTO THE DRAINAGE SYSTEM.
5. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION.
6. 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, APPROVED LOCATION.
7. ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
8. ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS.
9. ALL FILL AREAS ARE TO BE LEFT WITH A BUND AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS EARTHWORKS. THE HEIGHT OF THE BUND SHALL BE A MINIMUM OF 200MM.
10. ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
11. AFTER REVEGETATION OF THE SITE IS COMPLETE AND THE SITE IS STABLE THE OPINION OF A SUITABLY QUALIFIED PERSON ALL TEMPORARY WORK SUCH AS SILT FENCE, DIVERSION DRAINS ETC SHALL BE REMOVED.
12. ALL DISPOSAL STOCKPILES ARE TO BE SUITABLY COVERED TO THE SATISFACTION OF THE SITE MANAGER TO PREVENT WIND AND WATER EROSION.
13. ANY AREA THAT IS NOT APPROVED BY THE CONTRACT ADMINISTRATOR FOR CLEARING OR DISTURBANCE BY THE CONTRACTOR'S ACTIVITIES SHALL BE CLEARLY MARKED AND SIGN POSTED, FENCED OFF OR OTHERWISE APPROPRIATELY PROTECTED AGAINST ANY SUCH DISTURBANCE.
14. ALL STOCKPILE SITES SHALL BE SITUATED IN AREAS APPROVED FOR SUCH USE BY THE SITE MANAGER. A 6m BUFFER ZONE SHALL EXIST BETWEEN STOCKPILE SITES AND ANY STREAM OR FLOW PATH. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM EROSION AND CONTAMINATION OF THE SURROUNDING AREA BY USE OF THE MEASURES APPROVED IN THE EROSION AND SEDIMENTATION CONTROL PLAN.
15. ACCESS AND EXIT AREAS SHALL INCLUDE SHAKE-DOWN OR OTHER METHODS APPROVED BY THE SITE MANAGER FOR THE REMOVAL OF SOIL MATERIALS FROM MOTOR VEHICLES.
16. THE CONTRACTOR IS TO ENSURE RUNOFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS ROADS, DEPOT AND STOCKPILE SITES, SHALL BE FREE OF POLLUTANTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS OR DIRECTED TO NATURAL WATERCOURSES.
17. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWNS AND ALL EXCAVATIONS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES. WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED ESCAPE / SWMP.

SITE PREPARATION NOTES:

1. ALL EARTHWORKS SHALL BE COMPLETED GENERALLY IN ACCORDANCE WITH THE GUIDELINES SPECIFIED BY PSM3132-0035 REV D DATED 11 MAY 2017
2. EXISTING LEVELS ARE BASED ON INFORMATION PROVIDED BY REAL SERVE SURVEYORS AND GEOMAT ENGINEERING PTY LTD.
3. STRIP ANY TOP SOIL OR DELETERIOUS MATERIAL AND DISPOSE OF FROM SITE OR STORE AS DIRECTED.
4. COMPLETE CUT TO FILL EARTHWORKS TO ACHIEVE THE REQUIRED LEVELS AS INDICATED ON THE DRAWINGS WITHIN A TOLERANCE OF +30mm/-10mm THROUGH BUILDING PADS/PAVEMENTS AND -30mm/-20mm ELSEWHERE.
5. PREPARE STEEP BATTERS TO RECEIVE FILL BY CONSTRUCTING BENCHING TO CALCULATE FILL VOLUMES.
6. AREAS TO RECEIVE FILL (THAT ARE NOT IN BENCHMARK BATTERS) AND AREAS IN CUT SHALL BE PROOF ROLLED TO IDENTIFY ANY SOFT HEAVING MATERIAL. SOFT MATERIAL SHALL BE BORED OUT AND REMOVED PRIOR TO FILL PLACEMENT. PROOF ROLLING SHOULD BE INSPECTED BY A GEOTECHNICAL ENGINEER OR THE EARTHWORKS DESIGNER.
7. SITE WORN FILL SHALL BE COMPACTED IN MAXIMUM 100mm LAYERS AND TO DRY OR HALF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 90% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HALF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
8. IMPORTED FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HALF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HALF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
9. ALL ENGINEERED FILL PARTICLES SHALL BE ABLE TO BE INCORPORATED WITH A SINGLE VIBED TOWHEE. LESS THAN 30% OF PARTICLES SHALL BE RETAINED ON THE 37.5 MM SEIVE. ENGINEERED FILL SHALL BE ABLE TO BE TESTED IN ACCORDANCE WITH THE STANDARD COMPACTION METHOD (AS 2895.4.11) OR HALF TEST METHOD (AS 2895.5.11). THESE METHODS REQUIRE LESS THAN 20% RETAINED ON THE 37.5 MM SEIVE. WHERE BETWEEN 20% AND 30% OF PARTICLES ARE RETAINED ON THE 37.5 MM SEIVE THE ABOVE TEST METHODS SHALL STILL BE ADOPTED AND TEST REPORTS ANNOTATED APPROPRIATELY. THESE REQUIREMENTS SHOULD BE MET BY THE MATERIAL AFTER PLACEMENT AND COMPACTION.
10. ALL THE EARTHWORKS UNDERTAKEN AND THE SUBGRADE CONDITION IN THE CUT AREAS (IN THE STATED PERIOD) ARE DOCUMENTED IN THE REPORTS AND HAVE BEEN UNDERTAKEN IN ACCORDANCE WITH THE SPECIFICATION.
11. PRIOR TO ANY EARTHWORKS, EROSION CONTROL, AS OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE COMPLETED.
12. EXISTING ROCK, IF ANY, SHALL BE REMOVED BY HEAVY ROCK BREAKING OR RIPPING.
13. MATCH EXISTING LEVELS AT BATTER INTERFACE.
14. CONTRACTOR TO MATCH EXISTING LEVELS AT THE INTERFACE OF EARTHWORKS AND EXISTING SURFACE AT BATTER LOCATIONS OR WHERE NO RETAINING WALLS ARE PRESENT. ANY DISCREPANCY BETWEEN DESIGN AND EXISTING LEVELS TO BE REFERRED TO THE ENGINEER FOR DIRECTION OR ADJUSTMENTS TO DESIGN LEVELS.

STORMWATER DRAINAGE NOTES:

1. ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3500.3:2003 PLUMBING AND DRAINAGE, PART 3: STORMWATER DRAINAGE.
2. THE MINOR (PIPED) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 10 YEAR STORM EVENT AND THE MAJOR (OVERLAND) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 100 YEAR STORM EVENT.
3. ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON FINISHED LEVELS PLANS D4S1 & D4S2.
4. PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE PROVIDED ON PLAN.
5. EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR TO COMMENCING WORKS ON SITE.
6. ALL STORMWATER PIPES Ø75 TO GREATER SHALL BE CLASS 2 REINFORCED CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE.
7. ALL PIPES UP TO AND INCLUDING Ø300 TO BE UPVC GRADE SN4 UNO.
8. PIPE CLASS NOMINATED ARE FOR IN-SERVICE LOADING CONDITIONS ONLY. CONTRACTOR IS TO MAKE ANY NECESSARY ADJUSTMENTS REQUIRED FOR CONSTRUCTION CONDITIONS.
9. ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING N12-200 EACH WAY CENTERED IN WALL AND BASE. LAP MINIMUM 300mm where required. ALL CONCRETE FOR PITS SHALL BE F 25 MPa. PRECAST PITS MAY BE USED WITH THE THICKNESS OF THE ENGINEER.
10. IN ADDITION TO ITEM 6 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.
11. PIPES SHALL BE LAID AS PER PIPE LAYING DETAILS. PARTICULAR CARE SHALL BE TAKEN TO ENSURE THAT THE PIPE IS FULLY AND EVENLY SUPPORTED. RAM AND PACK FILLING AROUND AND UNDER BACK OF PIPES AND PIPE FAUCETS, WITH NARROW EGGED RAMMERS OR OTHER SUITABLE TAMPING DEVICES.
12. WHERE PIPE LINES ENTER PITS, PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED Ø100 UPVC TO EACH SIDE OF PIPE.
13. ALL SUBSOIL DRAINAGE LINES SHALL BE Ø100 SLOTTED UPVC WITH APPROVED FILTER WRAP LAID IN 300mm wide GRANULAR FILTER UNLESS NOTED OTHERWISE. LAY SLOTTED LINES TO MATCH FALLS OF LAND AND/OR 1 IN 400 MINIMUM PROVIDED CATCH CLEANING EYE BODDING POINT AT UPSTREAM END OF LINE AND AT 30m MAX. CTC. PROVIDE SUBSOIL LINES TO ALL PAVEMENT/ LANDSCAPED INTERFACES, TO REAR OF RETAINING WALLS (AS NOMINATED BY STRUCTURAL ENGINEER) AND AS SHOWN ON PLAN.
14. PIPE GRADES 1 IN 100 MINIMUM UNO.
15. PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.
16. MIN. 400 COVER TO PIPE OBVERT BENEATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND PEDESTRIAN AREAS.
17. PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D 'HEAVY DUTY'. THOSE IN CONTAINER PAVEMENT SHALL BE CLASS G 'HEAVY DUTY'. THOSE LOCATED IN NON-TRAFFICABLE AREAS SHALL BE CLASS B 'MEDIUM DUTY'.
18. PROVIDE CLEANING EYES (BODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE NO PITS ARE PRESENT.
19. DOWN PIPES (DI) TO BE AS PER HYDRAULIC ENGINEERS DETAILS WITH CONNECTOR TO PIPES ON PLAN OR ON PLAN. PROVIDE CLEANING EYE AT GROUND LEVEL.
20. PIPE LENGTHS NOMINATED ON SIZE OR LONGSECTIONS ARE MEASURED FROM CENTER OF PITS TO THE NEAREST 0.5m AND DO NOT REPRESENT ACTUAL LENGTH. THE CONTRACTOR IS TO ALLOW FOR THIS.



Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No.SSD-10366.....

Granted on the 7 May 2020

Signed.....

Sheet No. 6 of 17

FOR DEVELOPMENT APPLICATION

[illegible]

LEGEND:
 PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS.
 TYPICAL (N.S.O.P.)

- SILT FENCE ONLY
- SILT FENCE WITH CATCH DRAIN
- DIVERSION DRAIN
- OVERLAND FLOW PATH

SEDIMENTATION BASIN NOTE:

FOR SEDIMENT & EROSION CONTROL DETAILS REFER TO DRAWING C011994.06-DA25.
 SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION: MANAGING URBAN STORMWATER-THE BLUE BOOK'.
 CAPACITY BASED UPON 5 DAY RAINFALL DEPTH AT 85th PERCENTILE INTENSITY (24.4mm).

APPROXIMATE AREA OF DISTURBED SITE = 4.5ha

SEDIMENT BASIN 1:
 CATCHMENT AREA = 4.047ha
 REQUIRED BASIN VOLUME = 750m³
 BASE DIMENSIONS (L X W) = 16m x 23.0m
 TOP DIMENSIONS (L X W) = 23.0m x 32.0m
 MAX SIDE SLOPE = 1V:3H
 DEPTH = 1.5m
 PROVIDED BASIN VOLUME = 772m³

SEDIMENTATION BASINS TO COLLECT RUN-OFF IN EXTREME RAINFALL EVENTS. COLLECTED RUN-OFF TO BE ASSESSED BY A QUALIFIED LABORATORY FOR DOUSING RATES OF ALUM OR GYPSUM TO ENSURE COAGULATION OF SEDIMENTS PRIOR TO WATER BEING DISCHARGED TO COUNCIL STORMWATER SYSTEM.

EACH BASIN IS TO HAVE A MARKER PLACED AS PER THE DETAIL TO INDICATE WHEN SEDIMENT IS TO BE REMOVED. REMOVED SEDIMENT IS TO BE CLASSED AND DEWATERED PRIOR TO REMOVAL FROM SITE.

ALLOWANCE TO BE MADE DURING BENCHING OF SITE TO ENSURE RUN-OFF IS DIRECTED TO SEDIMENTATION BASINS.

NOTES:

1. ASSUME TYPE D SOIL (CLAY/SILTY CLAY)
2. ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)



**Planning,
Industry &
Environment**

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Approved Application No. **SSD-10366**

Granted on the **7 May 2020**

Signed **JH**

Sheet No. **7** of **17**



EROSION & SEDIMENT CONTROL PLAN
 SCALE 1:500

FOR DEVELOPMENT APPLICATION

5m 0 10 20 30 40 50m
 SCALE 1:500 AT A0 SIZE SHEET

ISSUED FOR DEVELOPMENT APPLICATION ISSUED FOR DEVELOPMENT APPLICATION ISSUED FOR INFORMATION AMENDMENTS	DATE 16.04.19 15.04.19 14.04.19 DATE	ISSUE C B A ISSUE	ARCHITECT MICHAEL CARR ARCHITECT 60 TOPE STREET SOUTH MELBOURNE VIC 3205 PH: (03) 9645 5635	CLIENT 	PROJECT BUNNINGS WAREHOUSE LOT 3, BRINGELLY ROAD HORNINGSSEA PARK, NSW	CONSULTANT 	Costin Roe Consulting Pty Ltd Consulting Engineers Level 2, 8 Macquarie Street Hobart, Tas 7000 Tel: (03) 8251 7000 Fax: (03) 8251 0700 Email: info@costinroe.com.au	DRAWING TITLE EROSION & SEDIMENT CONTROL PLAN DRAWING NO. C011994.06-DA20
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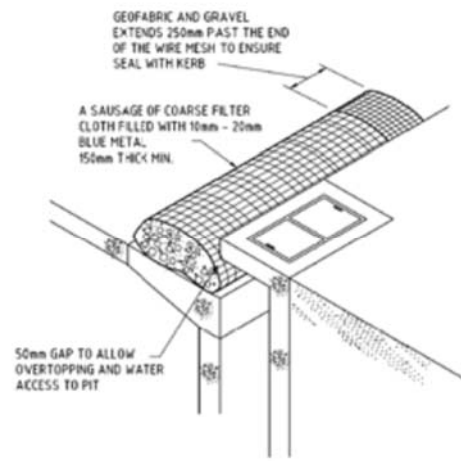
PRECISION | COMMUNICATION | ACCOUNTABILITY

Approved Application No. **SSD-10366**

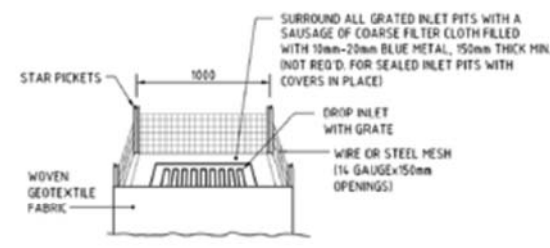
Granted on the **7 May 2020**

Signed **JB**

Sheet No. **8** of **17**

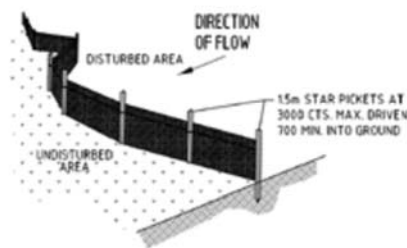


KERB INLET CONTROL
N.T.S.

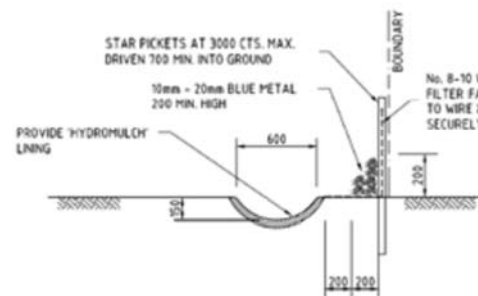


GRATED INLET PIT FILTER DETAIL
N.T.S.

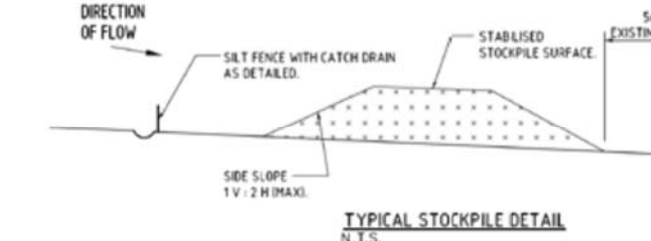
NOTE: ADOPT ABOVE DETAILS AROUND ALL PITS WITHIN AREA ENCOMPASSED BY SILT FENCE & TO PITS ON THE ROAD ADJACENT TO SITE BOUNDARY.



TYPICAL SILT FENCE DETAIL
N.T.S.
PROVIDE 1m RETURNS AT 30m INTERVALS.
TYPICAL

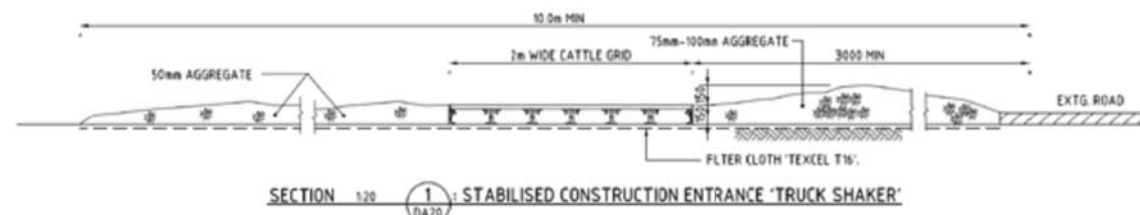


TYPICAL OPEN DRAIN & SILT FENCE
SCALE 1:20

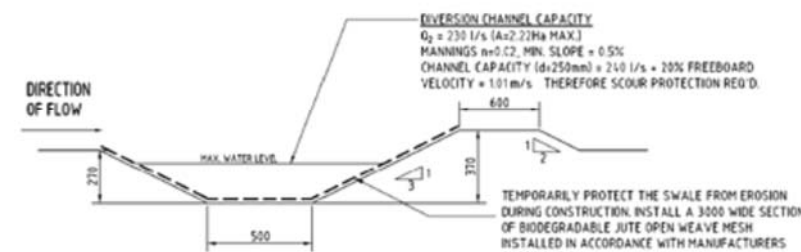


STOCKPILE NOTES

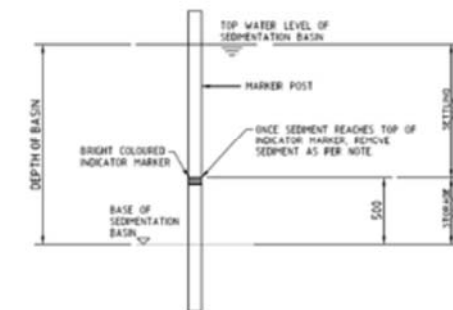
1. PLACE ALL STOCKPILES IN LOCATIONS MORE THAN 5m FROM EXISTING VEGETATION, ROADS & HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT ELONGATED MOUNDS. SIDE SLOPE TO BE 1 V: 2 H MAX.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
4. WHERE STOCKPILES ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE USING WOOD CHIP MULCH - 16 TONNE/Ha.
5. CONSTRUCT SILT FENCE WITH CATCH DRAIN ON UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES & SILT FENCE ONLY 1 TO 2m DOWNSLOPE AS SHOWN.



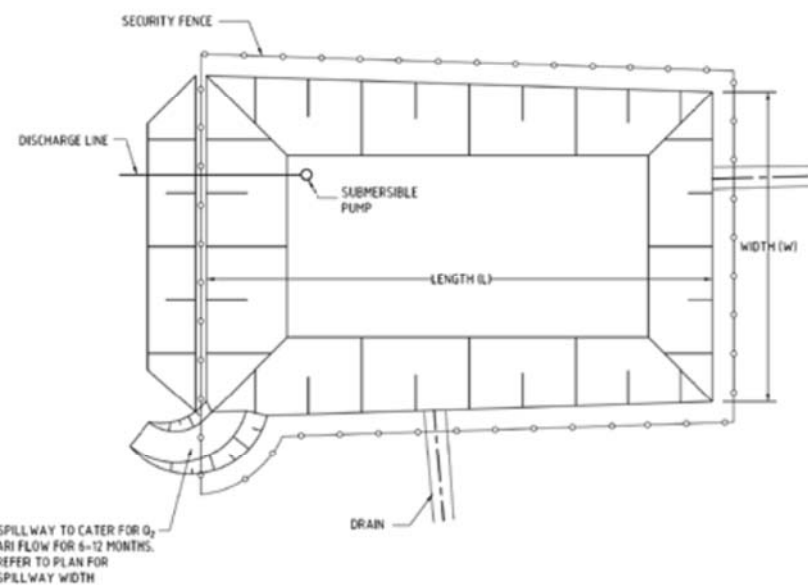
SECTION 1:20
1 DA20



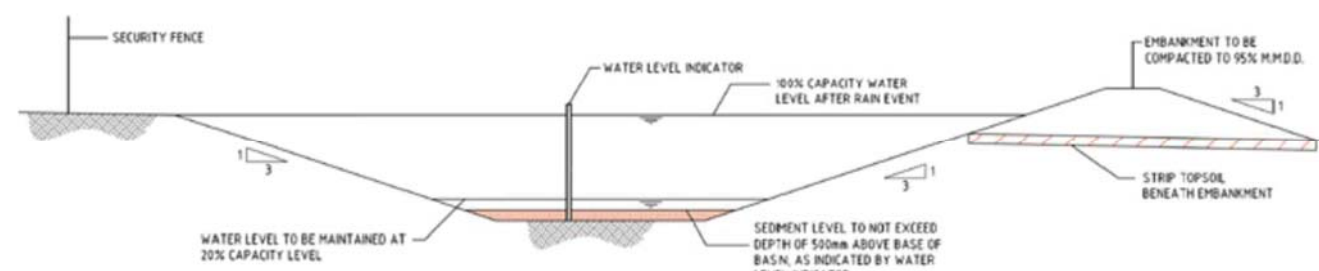
DIVERSION DRAIN SECTION
SCALE 1:20



SEDIMENT STORAGE MARKER
SCALE 1:20



TYPICAL SEDIMENT CONTROL POND PLAN
SCALE 1:250



TYPICAL SEDIMENT CONTROL BASIN SECTION
SCALE 1:50

NOTES:

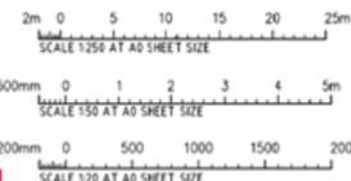
ALL EROSION & SEDIMENT CONTROL MEASURES TO BE INSPECTED & MAINTAINED DAILY BY SITE MANAGER.

MINIMISE DISTURBED AREAS.

ROADS & FOOTPATHS TO BE SWEEPED DAILY.

12m TURF TO BE PLACED BEHIND KERBS.

DUST MINIMISATION CONTROL BY WATERING TO BE IMPLEMENTED BY SITE MANAGER AS REQUIRED OR AS DIRECTED BY THE EPA.



FOR DEVELOPMENT APPLICATION

LEGEND:

LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON A PLAN OF SURVEY SY973499.001 BY LAND PARTNERS SURVEYORS 14/11/17 AND COSTIN ROE CONSULTING ESTATE DESIGN LEVELS.

- SGGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- PROPOSED DRAINAGE LINE
- EXISTING ESTATE DRAINAGE LINE
- ROOFWATER DOWNPIPE (INDICATIVE)
- SYPHONIC DRAINAGE LINE
- OVERLAND FLOW DIRECTION
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- EXISTING ESTATE CONTOUR

FOR CONTINUATION REFER DRAWING DA42 (SHEET 2)

PROPOSED BUILDING
FFL 76.00 ± 500mm

ROOFWATER TO BE CONVEYED
VIA INTERNAL SYPHONIC
DRAINAGE BY OTHERS

ROOFWATER TO BE CONVEYED
VIA EXTERNAL SYPHONIC
DRAINAGE BY OTHERS

PROVIDE BREAK IN ISLAND FOR
RUNOFF TO PIT. TYPICAL

PROVIDE BREAK IN ISLAND FOR
RUNOFF TO PIT WHERE PIT
SHOWN IN ISLAND. TYPICAL

35kL NURSERY IRRIGATION STORAGE TANK.
PROVIDE 3750 OVERFLOW TO PIT A19 &
FIRST FLUSH DIVERTER TO DETAIL DESIGN

PROVIDE LOCAL FALL AT 1% TO
DRAINAGE IN OUTDOOR AREA

MAX 7.4m HIGH RETAINING WALL
AS PART OF ESTATE WORKS ON
EASTERN BOUNDARY

STORMWATER DRAINAGE NOTES:
REFER TO DRAWING C011994.06-DA10 FOR STORMWATER
DRAINAGE NOTES

LEVELS NOTE:
LEVELS SHOWN TO BE ±500mm FROM THOSE SHOWN. FINAL
LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS.
ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL
EARTHWORKS BALANCE OVER THE PROPERTY.

PIT SCHEDULE - A

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT A1	78.60	S.G.G.P.	900x900	
PIT A2	77.63	S.G.G.P.	900x900	
PIT A3	76.30	S.G.G.P.	900x900	
PIT A4	76.30	S.G.G.P.	900x900	
PIT A5	76.30	S.G.G.P.	900x900	
PIT A6	76.30	S.G.G.P.	900x900	
PIT A7	76.30	S.G.G.P.	900x900	
PIT A8	75.70	S.G.G.P.	900x900	
PIT A9	75.70	S.G.G.P.	900x900	
PIT A10	75.70	S.G.G.P.	900x900	
PIT A11	75.77	S.J.P.	900x900	
PIT A12	75.78	S.J.P.	1200x1200	
PIT A13	76.60	S.G.G.P.	900x900	
PIT A14	76.40	S.G.G.P.	900x900	
PIT A15	76.60	S.G.G.P.	900x900	
PIT A16	76.35	S.G.G.P.	900x900	
PIT A17	75.90	S.G.G.P.	900x900	
PIT A18	75.90	S.G.G.P.	900x900	
PIT A19	75.80	S.G.G.P.	900x900	
PIT A20	75.70	S.G.G.P.	900x900	
PIT A21	75.70	S.G.G.P.	900x900	
PIT A22	75.70	S.G.G.P.	900x900	
PIT A23	75.70	S.G.G.P.	900x900	

PIT SCHEDULE - B & C

PIT No.	GRATE RL	TYPE	SIZE	COMMENT
PIT B1	75.75	S.G.G.P.	900x900	
PIT B2	75.75	S.G.G.P.	900x900	
PIT B3	75.75	S.G.G.P.	900x900	
PIT B4	75.75	S.G.G.P.	900x900	
PIT B5	75.75	S.G.G.P.	900x900	
PIT B6	75.75	S.G.G.P.	900x900	
PIT B7	75.75	S.G.G.P.	900x900	
PIT B8	75.96	S.G.G.P.	900x900	
PIT B9	75.80	S.G.G.P.	900x900	
PIT B10	75.80	S.G.G.P.	900x900	
PIT B11	75.60	S.J.P.	900x900	
PIT B12	75.35	S.G.G.P.	900x900	
PIT B13	75.48	S.J.P.	900x900	
PIT B14	75.73	S.G.G.P.	900x900	
PIT B15	75.75	S.G.G.P.	900x900	
PIT B16	75.75	S.G.G.P.	900x900	
PIT B17	75.70	S.G.G.P.	900x900	
PIT C1	75.72	S.G.G.P.	900x900	
PIT C2	73.90	S.G.G.P.	900x900	
PIT C3	71.90	S.G.G.P.	900x900	
PIT C4	69.50	S.G.G.P.	900x900	
PIT C5	67.20	S.G.G.P.	900x900	



**Planning,
Industry &
Environment**

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No. **SSD-10366**

Granted on the **7 May 2020**

Signed **[Signature]**

Sheet No. **9** of **17**



STORMWATER DRAINAGE PLAN - SHEET 1
SCALE 1:250

FOR DEVELOPMENT APPLICATION

2m 0 5 10 15 20 25m
SCALE 1:250 AT A0 SIZE SHEET

ISSUED FOR DEVELOPMENT APPLICATION	DATE	BY
ISSUED FOR DEVELOPMENT APPLICATION	30.10.19	B
ISSUED FOR DEVELOPMENT APPLICATION	16.01.20	B
ISSUED FOR DEVELOPMENT APPLICATION	12.03.20	C
ISSUED FOR INFORMATION	24.04.20	B
ISSUED FOR INFORMATION	23.08.19	B

AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE

ARCHITECT
MICHAEL CARR ARCHITECT
60 TOPE STREET
SOUTH MELBOURNE VIC 3205
PH: (03) 9645 5635

CLIENT
BUNNINGS warehouse

PROJECT
BUNNINGS WAREHOUSE
LOT 3, BRINGELLY ROAD
HORNINGSSEA PARK, NSW

DESIGNED
DRAWN
DATE

CHECKED
DATE
SCALE
BY
AS SHOWN

CAD REF.
C011994.06-DA11

COSTIN ROE CONSULTING PTY LTD
Consulting Engineers
Level 4, 8 Macquarie Street
Sydney, NSW 2000
Tel: (02) 9251-7000 Fax: (02) 9251-0755
Email: costinroe@costinroe.com.au

DRAWING TITLE
STORMWATER DRAINAGE PLAN
SHEET 1
C011994.06-DA41

PRECISION | COMMUNICATION | ACCOUNTABILITY

LEVELS DATUM IS AND.

EXISTING SITE LEVELS AND DETAILS BASED ON A PLAN OF SURVEY
SY073409.001 BY LAND PARTNERS SURVEYORS 14/11/17 AND
COSTIN ROE CONSULTING ESTATE DESIGN LEVELS.

- | | |
|---|---|
|  | - SGGP, SINGLE GRATED GULLY PIT |
|  | - SJP, SEALED JUNCTION PIT |
|  | - GD, GRATED DRAIN (300W x 250D UNITS) |
|  | - PROPOSED DRAINAGE LINE |
|  | - EXISTING ESTATE DRAINAGE LINE |
|  | - ROOFWATER DOWNPIPE (INDICATIVE) |
|  | - SYPHONIC DRAINAGE LINE |
|  | - OVERLAND FLOW DIRECTION |
|  | - FINISHED PAVEMENT CONTOUR (MAJOR)
0.5m INTERVALS |
|  | - FINISHED PAVEMENT CONTOUR (MINOR)
0.1m INTERVALS |
|  | - EXISTING ESTATE CONTOUR |

PIT SCHEDULE:

REFER TO DRAWING DA41 FOR PIT SCHEDULE.

STORMWATER DRAINAGE NOTES:

REFER TO DRAWING C011994.06-DA10 FOR STORMWATER DRAINAGE NOTES

LEVELS NOTE:

LEVELS SHOWN TO BE +/- 500mm FROM THOSE SHOWN FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY.



Planning, Industry & Environment

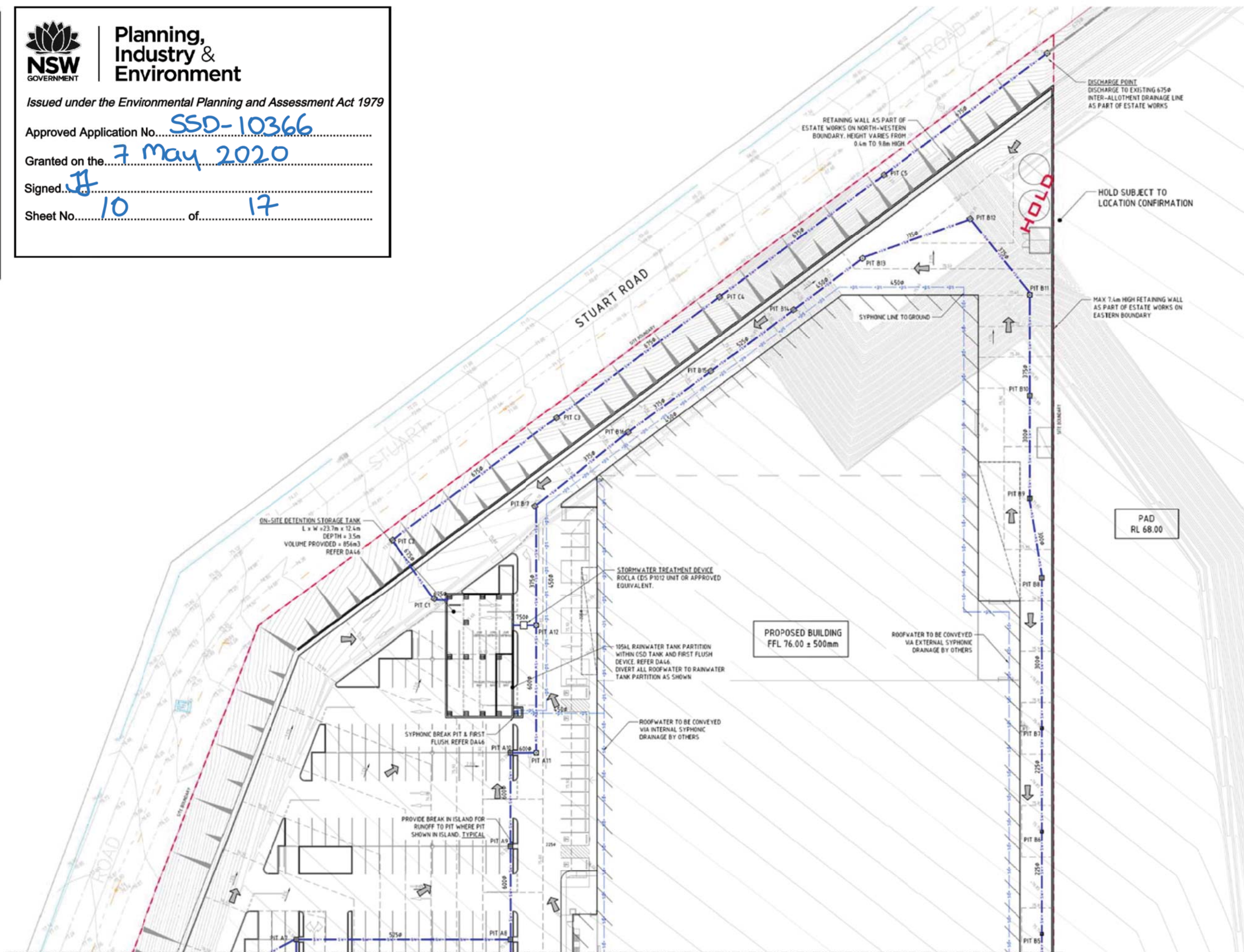
Issued under the Environmental Planning and Assessment Act 1979

Approved Application No. SSD-10366

Granted on the 7 May 2020

Signed.....

Sheet No. 10 of 17



FOR CONTINUATION REFER DRAWING DA41 (SHEET 1)

STORMWATER DRAINAGE PLAN - SHEET 2
SCALE 1:250

FOR DEVELOPMENT APPLICATION

ISSUED FOR DEVELOPMENT APPLICATION	24.11.19	P
REVISED AS CLOUDED	30.10.19	E
ISSUED FOR DEVELOPMENT APPLICATION	30.04.19	D
ISSUED FOR DEVELOPMENT APPLICATION	13.04.19	C
ISSUED FOR INFORMATION	04.04.19	B
ISSUED FOR INFORMATION	23.08.19	A
AMENDMENTS	12/07/19	100% A

[illegible]

ARCHITECT
MICHAEL CARR ARCHITECT
88 TOPE STREET
SOUTH MELBOURNE VIC 3205
PH. (03) 9645 5635

	Country
--	---------



PROJECT
BUNNINGS WAREHOUSE
LOT 3, BRINGELLY ROAD
HORNINGSEA PARK, NSW



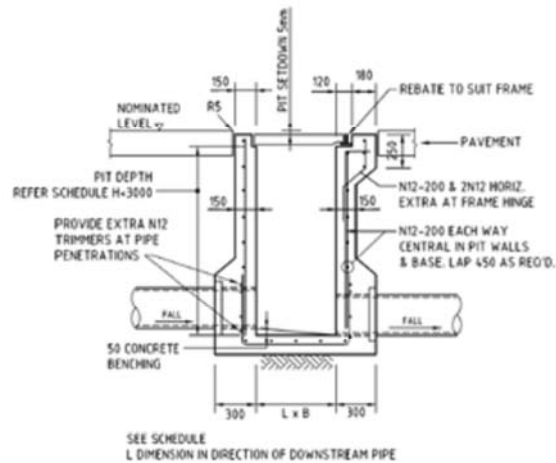
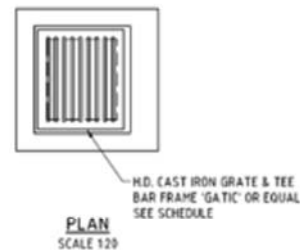
Costin Roe Consulting Pty Ltd
Consulting Engineers
Level 1, 8 Macquarie Street
Wahia Bay, Sydney NSW 2000
Tel: (02) 9274-7000 Fax: (02) 9262-0774
email: enr@costinroe.com.au

Costin Roe Consulting

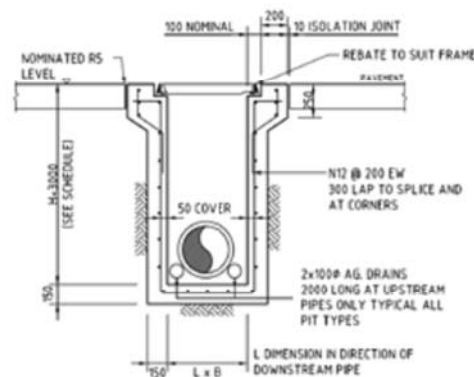
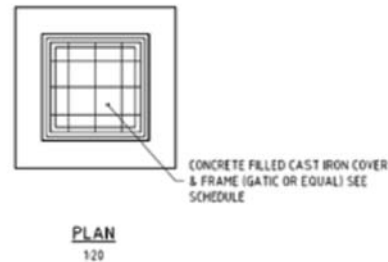
PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
STORMWATER DRAINAGE PLAN
SHEET 2

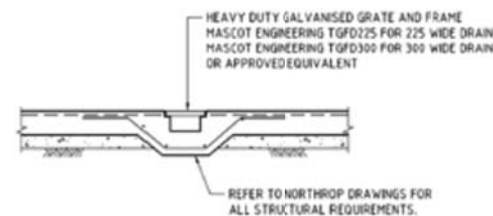
Case No. C011994.06-DA42



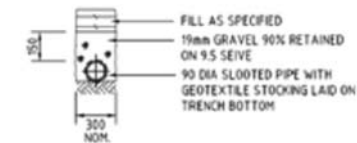
SINGLE GRATED GULLY PIT - SGGP



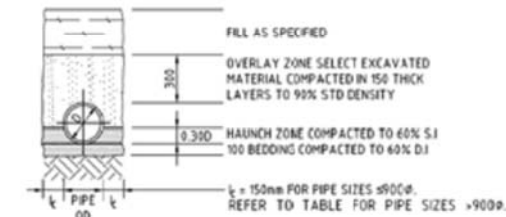
SEALED JUNCTION PIT - SJP



GRADED DRAIN DETAIL
SCALE 1:20



SUPPORT TO AG DRAIN



TYPE H1 SUPPORT TO CONCRETE PIPES AT LANDSCAPED AREAS

SIEVE SIZE	WEIGHT PASSING(G)
19	100
2.36	100 TO 50
0.60	90 TO 20
0.30	60 TO 10
0.15	25 TO 0
0.075	10 TO 0

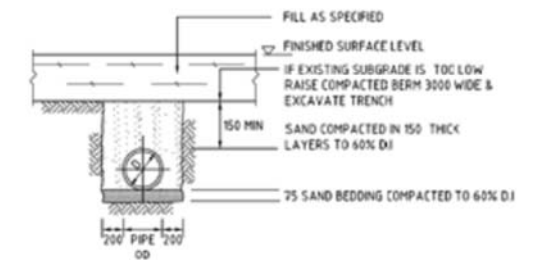
SIEVE SIZE	WEIGHT PASSING(G)
75	100
9.5	100 TO 50
2.36	100 TO 30
0.60	50 TO 75
0.075	25 TO 0

SELECT FILL MATERIAL IN ACCORDANCE WITH TABLE 1 AS 3725

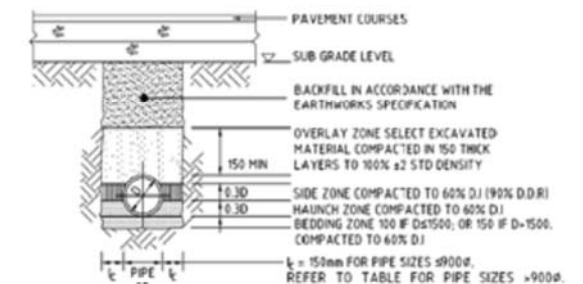
PIPE SIZE	W (mm)
<900mm	150
1050mm	175
1200mm	200
1350mm	225
1500mm	250
1650mm	275
1800mm	300

REFER TO ENGINEER FOR TRENCH WIDTHS FOR PIPE SIZES GREATER THAN 1800mm

PIPE LAYING DETAILS
SCALE 1:20

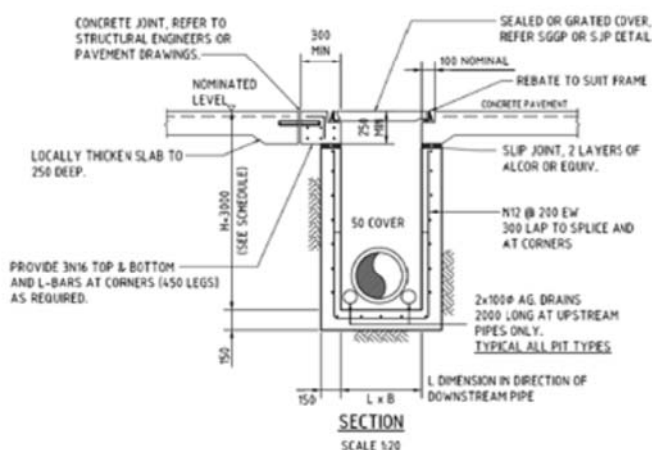


SUPPORT TO uPVC PIPES



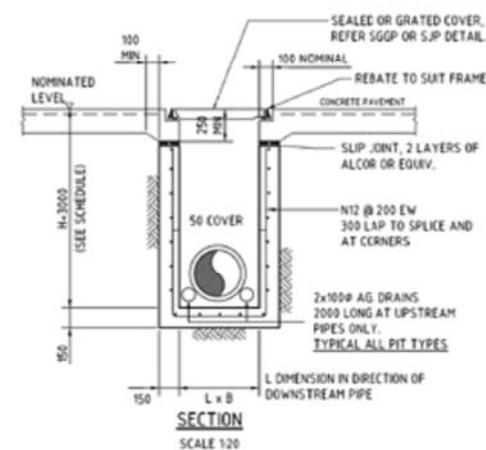
TYPE HS2 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT

Ds 1350, MAX FILL = 4.0m
Ds 1350, MAX FILL = 3.0m



SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL GRADE/COVER SUPPORT CAST-INTO PAVEMENT SLAB

(ADOPT IN CONCRETE PAVEMENT FOR SGGP's & SJP's, WHERE PITS ARE LOCATED IN THE CORNER OF SLAB PANELS OR ADJACENT TO SLAB PANEL JOINTS)



SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL GRADE/COVER SUPPORT CAST-INTO PAVEMENT SLAB

(ADOPT IN CONCRETE PAVEMENTS FOR SGGP's & SJP's, WHERE JOINTS ARE NOT LOCATED WITHIN PROXIMITY OF THE GRATE)



Planning, Industry & Environment

Issued under the Environmental Planning and Assessment Act 1979

Approved Application No. **SSD-10366**

Granted on the **7 May 2020**

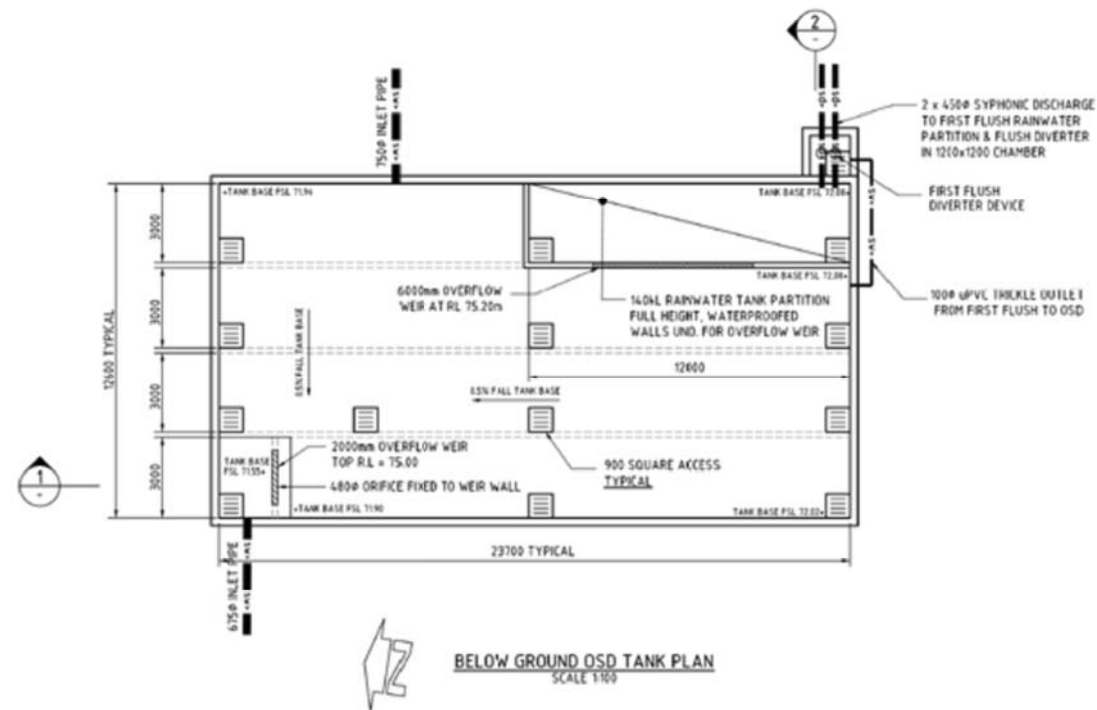
Signed **JH**

Sheet No. **11** of **17**

FOR DEVELOPMENT APPLICATION

200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT A4 SHEET SIZE

ISSUED FOR DEVELOPMENT APPLICATION			16.09.19	C	ARCHITECT			MICHAEL CARR ARCHITECT 88 TOPE STREET SOUTH MELBOURNE VIC 3205 PH: (03) 9445 5635			CLIENT			 BUNNINGS WAREHOUSE LOT 3, BRINGELLY ROAD HORNINGSEA PARK, NSW			PROJECT			BUNNINGS WAREHOUSE LOT 3, BRINGELLY ROAD HORNINGSEA PARK, NSW			 Costin Roe Consulting Pty Ltd Consulting Engineers Level 1, 8 Macquarie Street Woolloomooloo NSW 2020 Tel: 02 9251 7000 Fax: 02 9251 0751 email: info@costinroe.com.au			 Costin Roe Consulting			DRAWING TITLE			STORMWATER DRAINAGE DETAILS SHEET 1			PROJECT NO.			C011994.06-DA45			SHEET NO.			1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
ISSUED FOR DEVELOPMENT APPLICATION			16.09.19	B	ARCHITECT			68 TOPE STREET SOUTH MELBOURNE VIC 3205 PH: (03) 9445 5635			CLIENT			 BUNNINGS WAREHOUSE LOT 3, BRINGELLY ROAD HORNINGSEA PARK, NSW			PROJECT			BUNNINGS WAREHOUSE LOT 3, BRINGELLY ROAD HORNINGSEA PARK, NSW			 Costin Roe Consulting Pty Ltd Consulting Engineers Level 1, 8 Macquarie Street Woolloomooloo NSW 2020 Tel: 02 9251 7000 Fax: 02 9251 0751 email: info@costinroe.com.au			 Costin Roe Consulting			DRAWING TITLE			STORMWATER DRAINAGE DETAILS SHEET 1			PROJECT NO.			C011994.06-DA45			SHEET NO.			1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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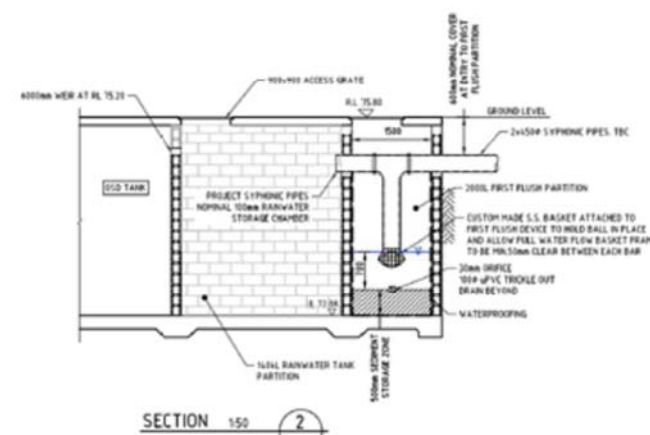
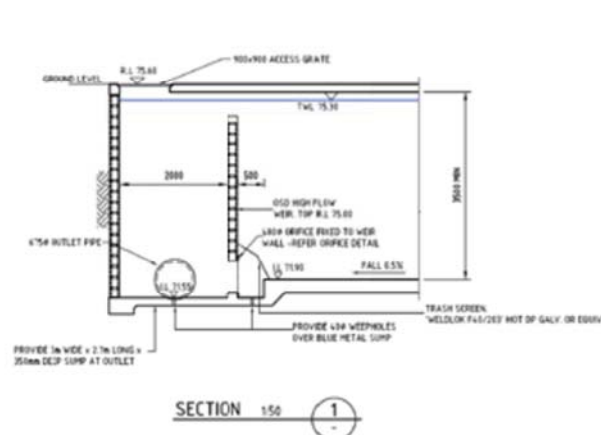
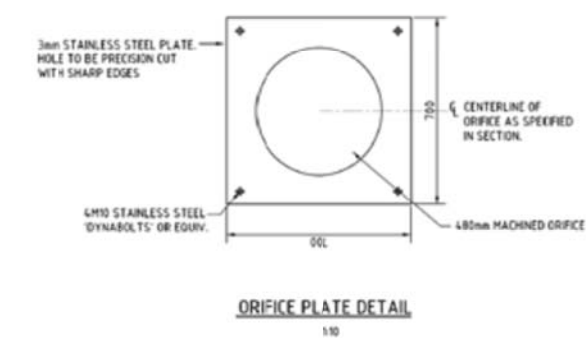


OSD TANK DETAILS

SITE AREA	40 970m ²
TOTAL SITE AREA	40 970m ²
TOTAL SITE AREA DRAINING TO STORAGE (95% IMPERVIOUS)	39 000m ²
STORAGE	
ORIFICE #	480mm
VOLUME PROVIDED	856m ³
INTERNAL TANK DIMENSIONS (INC. HIGH FLOW CHAMBERS)	3.5m x 23.7m x 12.0m

OSD HYDRAULIC DETAILS

STORM A.R.I. EVENT	STORM DURATION	PRE-DEVELOPMENT FLOW (m ³ /s)	POST-DEVELOPMENT FLOW (UN-ATTENUATED) (m ³ /s)	POST-DEVELOPMENT FLOW (ATTENUATED) (m ³ /s)	OSD TANK WATER DEPTH (mm)	OSD TANK STORAGE VOLUME (m ³)
5 YEAR	1 HOUR	0.849	1.09	0.699	1950	419
20 YEAR	2 HOURS	1.39	1.57	0.827	2830	660
100 YEAR	2 HOURS	1.81	2.10	1.49	3400	820



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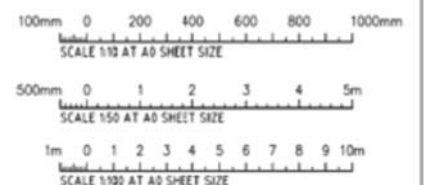
Approved Application No. **SSD-10366**

Granted on the **7 May 2020**

Signed **JH**

Sheet No. **12** of **17**

NOTE:
STRUCTURAL DESIGN OF TANK BY STRUCTURAL ENGINEER IN DETAIL DESIGN STAGE.



FOR DEVELOPMENT APPLICATION

ISSUED FOR DEVELOPMENT APPLICATION	16.09.19	C	ARCHITECT	MICHAEL CARR ARCHITECT	CLIENT	BUNNINGS WAREHOUSE	PROJECT	BUNNINGS WAREHOUSE	CONSULTANT	Costin Roe Consulting Pty Ltd	PRECISION COMMUNICATION ACCOUNTABILITY	DRAWING TITLE	STORMWATER DRAINAGE DETAILS SHEET 2
ISSUED FOR DEVELOPMENT APPLICATION	15.09.19	B	ARCHITECT	68 TOPE STREET	CLIENT	LOT 3, BRINGELLY ROAD	PROJECT	LOT 3, BRINGELLY ROAD	CONSULTANT	Consulting Engineers			
ISSUED FOR INFORMATION	04.09.19	A	ARCHITECT	SOUTH MELBOURNE VIC 3205	CLIENT	HORNINGSEA PARK, NSW	PROJECT	HORNINGSEA PARK, NSW	CONSULTANT	Costin Roe Consulting Pty Ltd			
AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE

LEGEND:
LEVELS DATUM IS AHD.

EXISTING SITE LEVELS AND DETAILS BASED ON A PLAN OF SURVEY SY07349.001 BY LAND PARTNERS SURVEYORS 14/11/17 AND COSTIN ROE CONSULTING ESTATE DESIGN LEVELS.

- SGP, SINGLE GRATED GULLY PIT
- SJP, SEALED JUNCTION PIT
- GD, GRATED DRAIN (300W x 225D UNO)
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- EXISTING ESTATE CONTOUR

FINISHED LEVEL NOTES:
REFER TO DRAWING C01994.06-DA10 FOR FINISHED LEVEL NOTES

LEVELS NOTE:
LEVELS SHOWN TO BE +/-500mm FROM THOSE SHOWN. FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY.

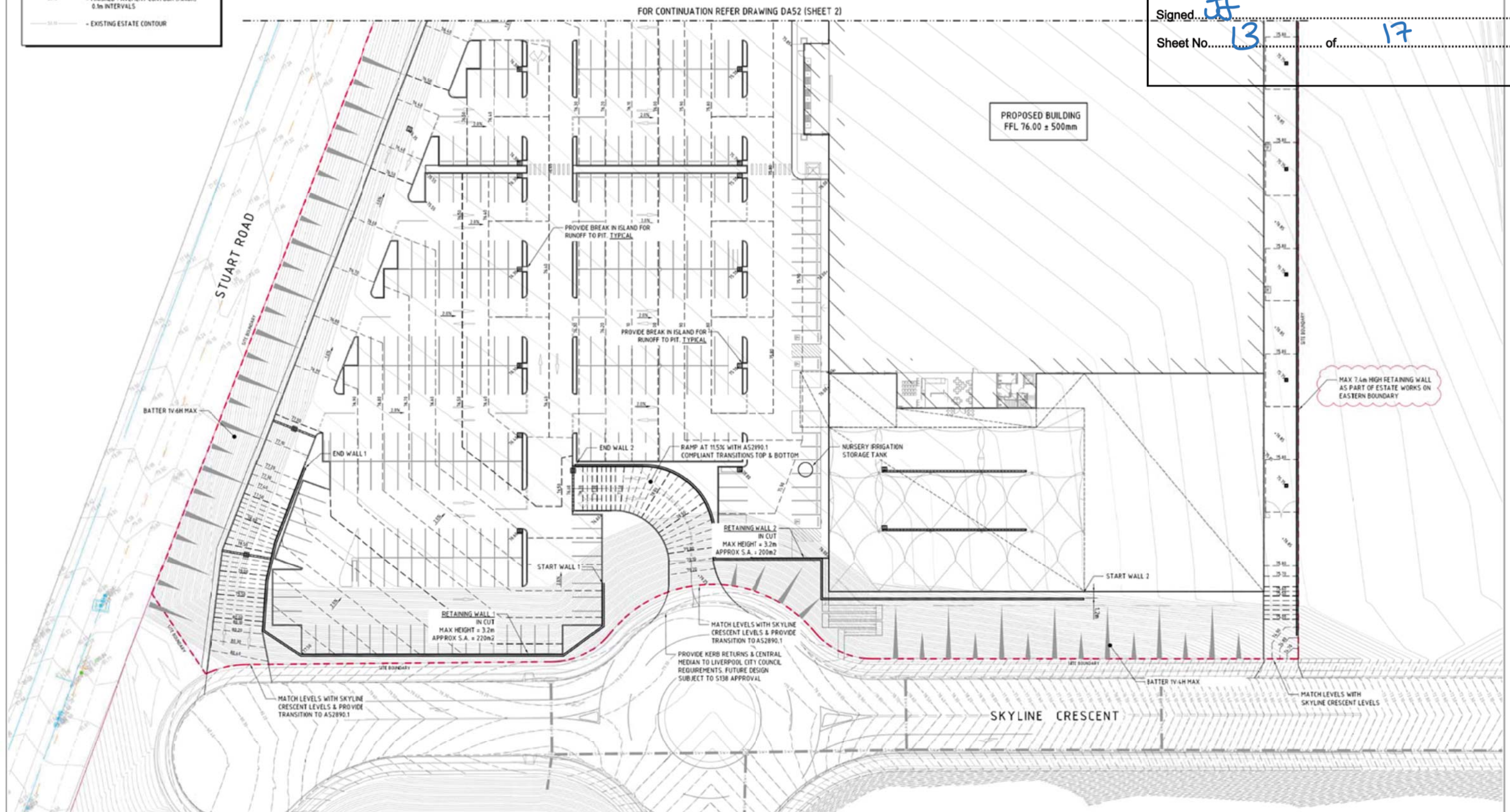
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Signed **JH**

Sheet No. **13** of **17**



FINISHED LEVELS PLAN - SHEET 1
SCALE 1:250

FOR DEVELOPMENT APPLICATION



REVISIONS REVISION AS CLOUDED ISSUED FOR DEVELOPMENT APPLICATION ISSUED FOR DEVELOPMENT APPLICATION ISSUED FOR INFORMATION ISSUED FOR INFORMATION AMENDMENTS	10.10.19 10.10.19 10.10.19 10.10.19 10.10.19	1 2 3 4 5	AMENDMENTS DATE ISSUE AMENDMENTS DATE ISSUE	ARCHITECT MICHAEL CARR ARCHITECT 60 TOPE STREET SOUTH MELBOURNE VIC 3205 PH: (03) 9645 5635	CLIENT BUNNINGS warehouse	PROJECT BUNNINGS WAREHOUSE LOT 3, BRINGELLY ROAD HORNINGSSEA PARK, NSW	CONSULTANT Costin Roe Consulting Pty Ltd Consulting Engineers Level 2, 8 Macquarie Street Hobart, Tas 7000 Tel: (03) 6221 7000 Fax: (03) 6221 0778 Email: info@costinroe.com.au	PRECISION COMMUNICATION ACCOUNTABILITY	DRAWING TITLE FINISHED LEVELS PLAN SHEET 1 DRAWING NO. C01994.06-DA51
--	--	-----------------------	--	--	-------------------------------------	--	--	--	---

EXISTING SITE LEVELS AND DETAILS BASED ON A PLAN OF SURVEY SY073409.001 BY LAND PARTNERS SURVEYORS 14/11/17 AND COSTIN ROE CONSULTING ESTATE DESIGN LEVELS.

- SGGP, SINGLE GRATED GULLY PIT
- S.J.P, SEALED JUNCTION PIT
- GD, GRATED DRAIN (300W x 275D UNO)
- FINISHED PAVEMENT CONTOUR (MAJOR) 0.5m INTERVALS
- FINISHED PAVEMENT CONTOUR (MINOR) 0.1m INTERVALS
- EXISTING ESTATE CONTOUR

FINISHED LEVEL NOTES:

REFER TO DRAWING C013730.00-0A10 FOR FINISHED LEVEL NOTES

LEVELS NOTE:

LEVELS SHOWN TO BE ± 500 mm FROM THOSE SHOWN. FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS. ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY.



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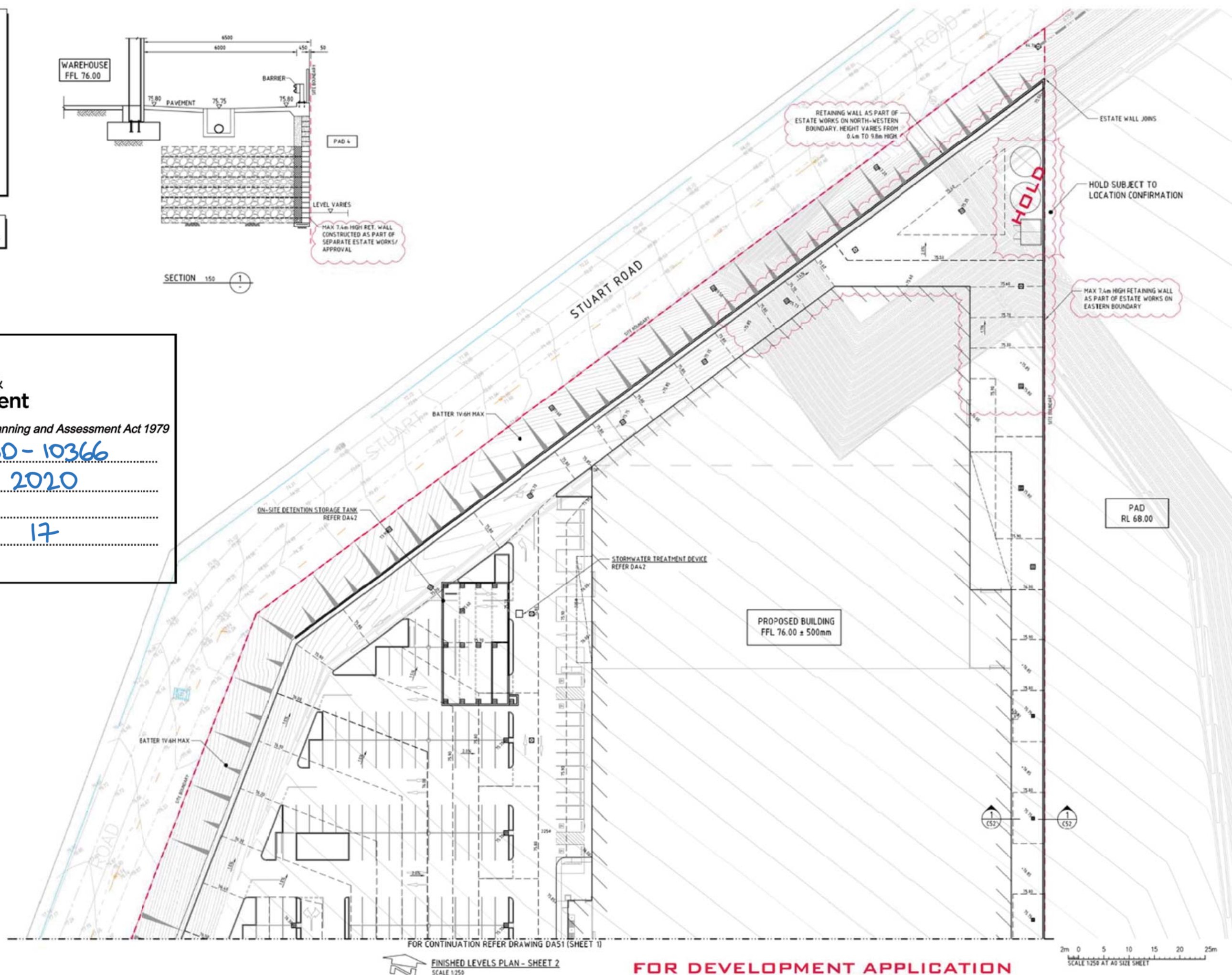
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Approved Application No. SSD-10366

Granted on the 7 may 2020

Signed JH

Sheet No. 14 of 17



FOR CONTINUATION REFER DRAWING DA51 (SHEET 1)

FINISHED LEVELS PLAN - SHEET 2
SCALE 1/250

FOR DEVELOPMENT APPLICATION

REVISED AS CLOUDED	20.10.79	F
ISSUED FOR DEVELOPMENT APPLICATION	26.10.79	E
REVISED AS CLOUDED	13.11.79	D
ISSUED FOR DEVELOPMENT APPLICATION	15.11.79	C
ISSUED FOR INFORMATION	24.11.79	B
ISSUED FOR INFORMATION	23.08.79	A

ARCHITECT
MICHAEL CARR ARCHITECT
88 TOPE STREET
SOUTH MELBOURNE VIC 3205
PH. (03) 9645 5635

CLIENT
BUNNINGS
warehouse

PROJECT
BUNNINGS WAREHOUSE
LOT 3, BRINGELLY ROAD
HORNINGSEA PARK, NSW



Costin Roe Consulting Pty Ltd
Consulting Engineers
Level 1, 8 Wadswill Street
Wahk Day, Sydney NSW 2000
Tel: (02) 9222-7000 Fax: (02) 9242-0776
email: enquiries@costinroe.com.au

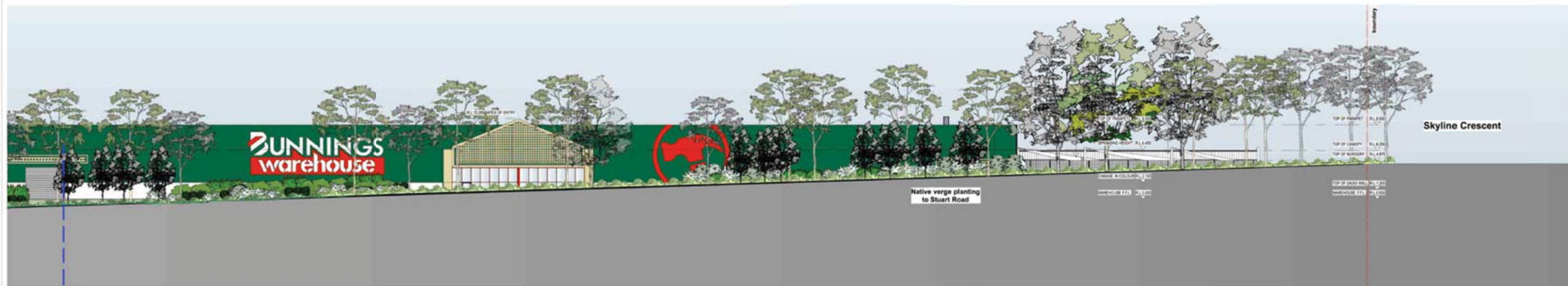
Costin Roe Consulting

PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE:
FINISHED LEVELS PLAN
SHEET 2

TY 0011994.06-DA52





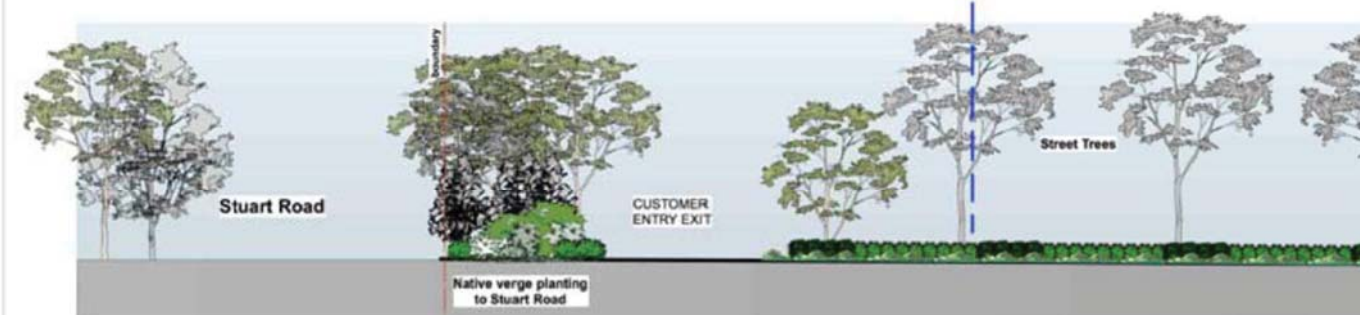
1 WEST ELEVATION - Stuart Road Frontage
1:250



1 WEST ELEVATION - Stuart Road Frontage CONTINUED
1:250



2 SOUTH ELEVATION - Skyline Drive Frontage
1:250



2 SOUTH ELEVATION - Skyline Drive Frontage CONTINUED
1:250



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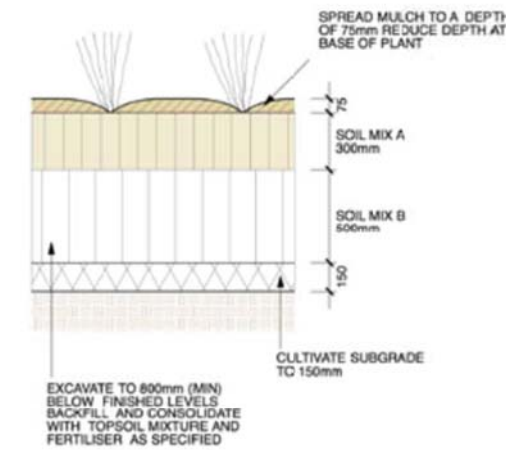
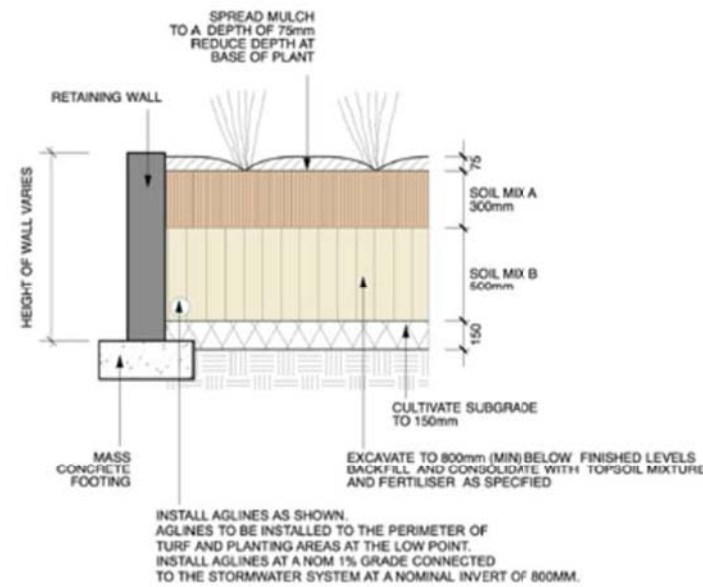
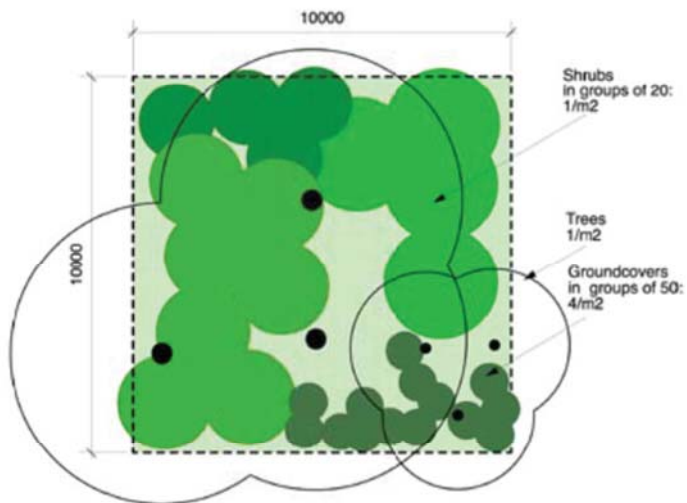
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Sheet No. **16** of **17**



A PLANTING MATRIX - MASSED NATIVE SHRUBS + GRASSES DETAIL
1:100@A1

B RETAINING WALL + MASS PLANTING
1:20@A1

C MASS PLANTING DETAIL
1:20@A1



Planning, Industry & Environment

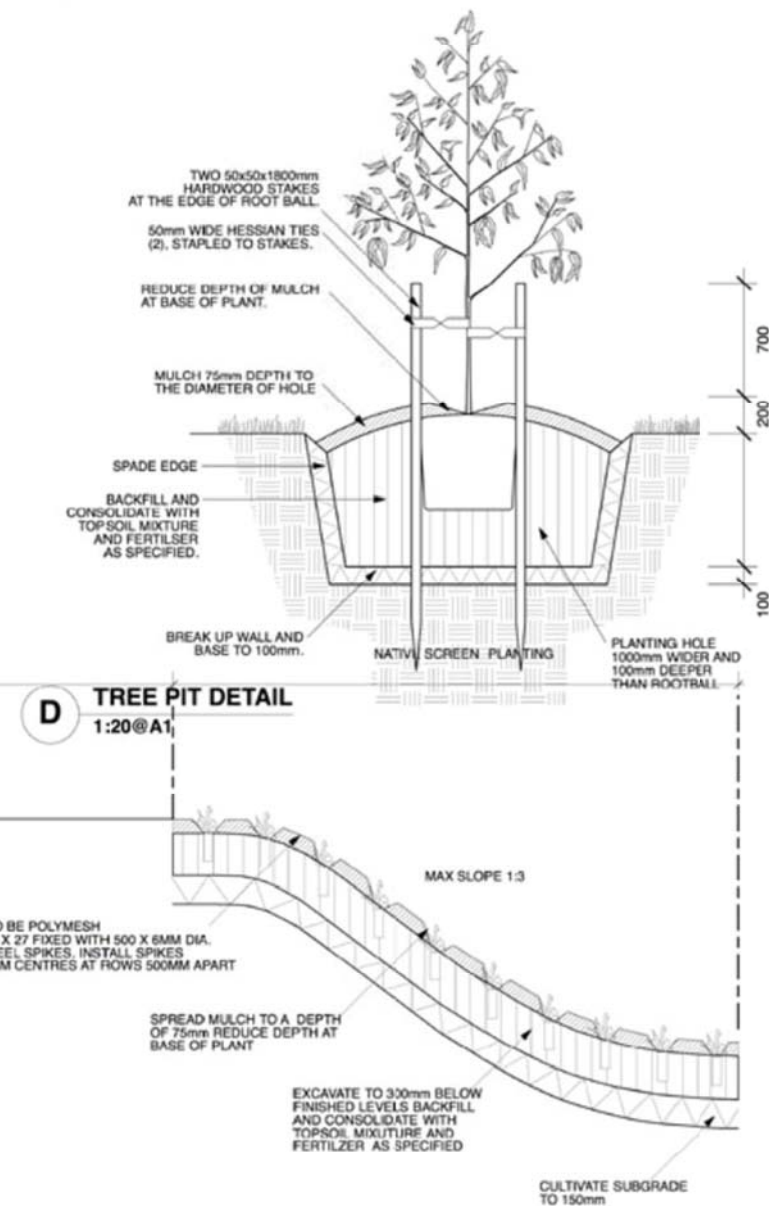
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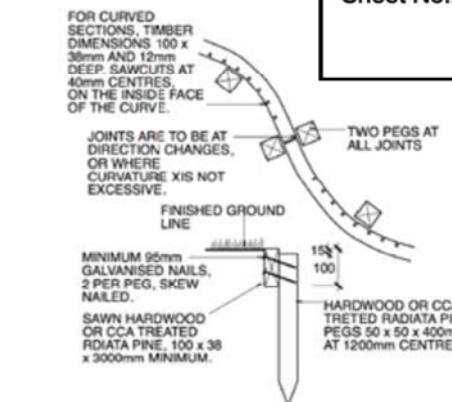
Granted on the **7 May 2020**

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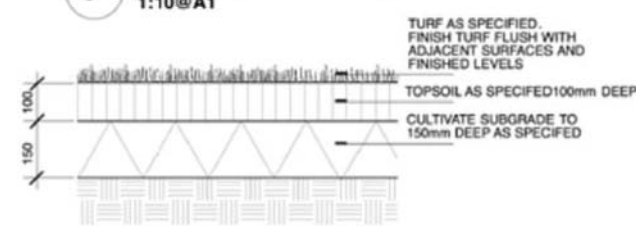
Sheet No. **17** of **17**



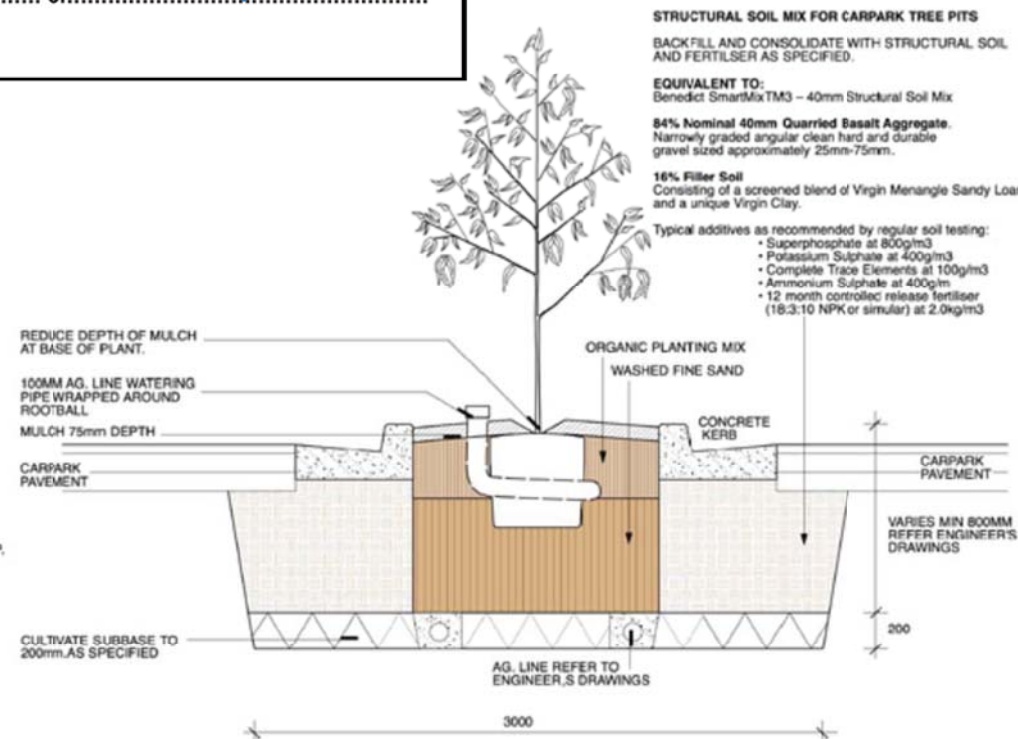
D TREE PIT DETAIL
1:20@A1



F TIMBER EDGE DETAIL
1:10@A1



E TURF DETAIL
1:10@A1



B TREE PIT IN CAR PARK - PLAN
1:50@A1

SPECIFICATION NOTES

SOIL WORKS
THOROUGHLY CULTIVATE THE SUBSOIL TO A DEPTH OF 150MM. SUPPLY AND INSTALL TO A DEPTH OF 300 MM THE FOLLOWING SOIL MIX:

SOIL DEPTH	150MM
TURF	300MM
PLANTING	
SOIL MIX	
BLACK LOAM	60%
COARSE WASHED RIVER SAND	40%

ORGANIC LAYER 50 MM DEEP
CULTIVATE A 50MM LAYER OF ORGANIC ADOMIX INTO THE TOP 100MM OF SOIL MIX

Addmix composition
TREATED HARDWOOD SAWDUST 30%
FINE PARK FINES 40%
COMPOSTED MANURE 30%

TREE PLANTING AREAS TO BE MOUNDED 300 MM ABOVE THE EXISTING GROUND LINE TO IMPROVE DRAINAGE FROM PLANTING HOLES. TREE HOLES TO BE EXCAVATED 2 TIMES LARGER THAN THE ROOTBALL AND BACKFILLED WITH SOIL MIX AS SPECIFIED ABOVE.

MULCH
SUPPLY AND PLACE 75 MM LAYER OF HARDWOOD HORTICULTURAL GRADE MULCH, GRADED IN SIZE 15 MM X 15MM X 15MM, FREE FROM WOOD SLIVERS. SET DOWN 25MM FROM ADJACENT PAVING.

TURF AREAS
APPLY SHIRLEY'S NO17 LAWN FERTILISER TO SOIL, APPLIED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. TURF SHALL BE:
o 'Village Green' KIKUYU WITH AN EVEN THICKNESS OF 30MM.

DO NOT LET TURF DRY OUT. LIGHTLY TOP DRESS TURF 6 WEEKS AFTER LAYING WITH 10MM IMPORTED TOPSOIL THATCH TO BE LAID WITH STAGGERED JOINTS. FLUSH WITH PATHWAY LEVELS.

TIMBER EDGE
ALL MASS PLANTED AREAS WHERE THEY ADJUT GRASSED AREAS SHALL HAVE A TREATED TIMBER EDGE, 100 X 38 MM NOMINAL, EDGING, 50 MM HW STAKES. SET EDGING FLUSH WITH ADJOINING SURFACES AS SHOWN ON THE DRAWINGS TO DEFINE PLANTING AND OR GRASSED AREAS. FOR EDGING WITH GALVANISED NAILS, TWO PER STAKE. DRIVE STAKES 400 MM INTO GROUND AT 1200 MM CENTRES ON THE PLANTING SIDE OF THE EDGING WITH THE TOP FLUSH WITH THE EDGING.

PLANT MATERIALS
ALL PLANTS SHALL BE TRUE TO TYPE, OF HEALTHY GROWTH DISEASE FREE NURSERY STOCK AND NOT DISPLAYING RESTRICTED GROWTH PATTERNS. SHOULD THERE BE A REQUIREMENT FOR SUBSTITUTIONS THEY SHALL NOT CHANGED WITHOUT PRIOR APPROVAL OF THE LANDSCAPE ARCHITECT. NO VARIATED STRAIN SHALL BE USED. ALLOW FOR SLOW RELEASE FERTILISER TO ALL PLANTS APPLIED AT THE MANUFACTURERS RECOMMENDED RATE TO BE SAME OR SIMILAR TO COMPOSITE.

FERTILIZER
MASS PLANTED AREAS: ALLOW 2 SHIRLEY'S SLOW RELEASE KOKO PELLETS PER 5-35 LITRE PLANT AND ONE PER 150MM PLANT TURF AREAS. ALLOW SHELLYS NO.17 LAWN FERTILIZER OR EQUIVALENT, APPLIED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.

STAKES AND TIES
DURABLE HARDWOOD, STRAIGHT, SIZE SHALL BE 50X50X1800 WITH TIES SPACED APPROXIMATELY 300MM APART. DRIVE STAKES 600MM INTO THE GROUND ON THE WINDWARD SIDE OF THE PLANT. TIES SHALL BE 50MM HESSIAN WEBBING FIXED IN A FIGURE OF EIGHT PATTERN.

PLANT ESTABLISHMENT PERIOD
FROM THE DATE OF PRACTICAL COMPLETION, THERE SHALL BE A PERIOD OF 52 WEEKS FOR THE PLANTING ESTABLISHMENT PERIOD. ANY FAILED PLANTS SHALL BE REPLACED WITH THE SAME TYPE AND SPECIES. THE MULCHED SURFACES SHALL BE MAINTAINED IN A NEAT AND TIDY CONDITION. STAKES AND TIES SHALL BE ADJUSTED AS REQUIRED AND THE TURF SHALL BE REGULARLY MOWED TO MAINTAIN A HEALTHY GROUND COVER. A CONSTANT WATER REGIME SHALL BE MAINTAINED TO ENSURE HEALTHY GROWTH OF ALL PLANT MATERIAL.

IRRIGATION
ALL PLANTING AREAS TO BE SUPPLIED WITH A FULLY AUTOMATIC DRIP IRRIGATION SYSTEM EQUIVALENT TO NETAIR. THE IRRIGATION SYSTEM SHALL MEET ALL THE REQUIREMENTS OF THE WATER AND ELECTRICITY SUPPLY AUTHORITY AND RELEVANT AUSTRALIAN STANDARDS. PROVIDE RICHDEL OR SIMILAR APPROVED CONTROLLER. CONNECTION TO SYDNEY WATER MAINS TO BE THROUGH AN APPROVED REDUCED PRESSURE ZONE DEVICE INSTALLED TO WATER REGULATIONS.

BANK STABILIZATION - Geoweb
MANUFACTURER: GEOFABRICS AUSTRALASIA PTY LTD
PH 02 9821 3277
STANDARD PANEL SIZE: 2.95M X 6.1M
DEPTH: 200MM

STRUCTURAL SOIL MIX FOR CARPARK TREE PITS

BACKFILL AND CONSOLIDATE WITH STRUCTURAL SOIL AND FERTILISER AS SPECIFIED.

EQUIVALENT TO:
Benedict SmartMix M3 - 40mm Structural Soil Mix

84% Nominal 40mm Quarried Basalt Aggregate.
Narrowly graded angular clean hard and durable gravel sized approximately 25mm-75mm.

16% Filler Soil
Consisting of a screened blend of Virgin Menangle Sandy Loam and a unique Virgin Clay.

Typical additives as recommended by regular soil testing:
• Superphosphate at 800g/m3
• Potassium Sulphate at 400g/m3
• Complete Trace Elements at 100g/m3
• Ammonium Sulphate at 400g/m3
• 12 month controlled release fertiliser (18:3:10 NPK or similar) at 2.0kg/m3