

ATTACHMENT 4 - Civil Plans

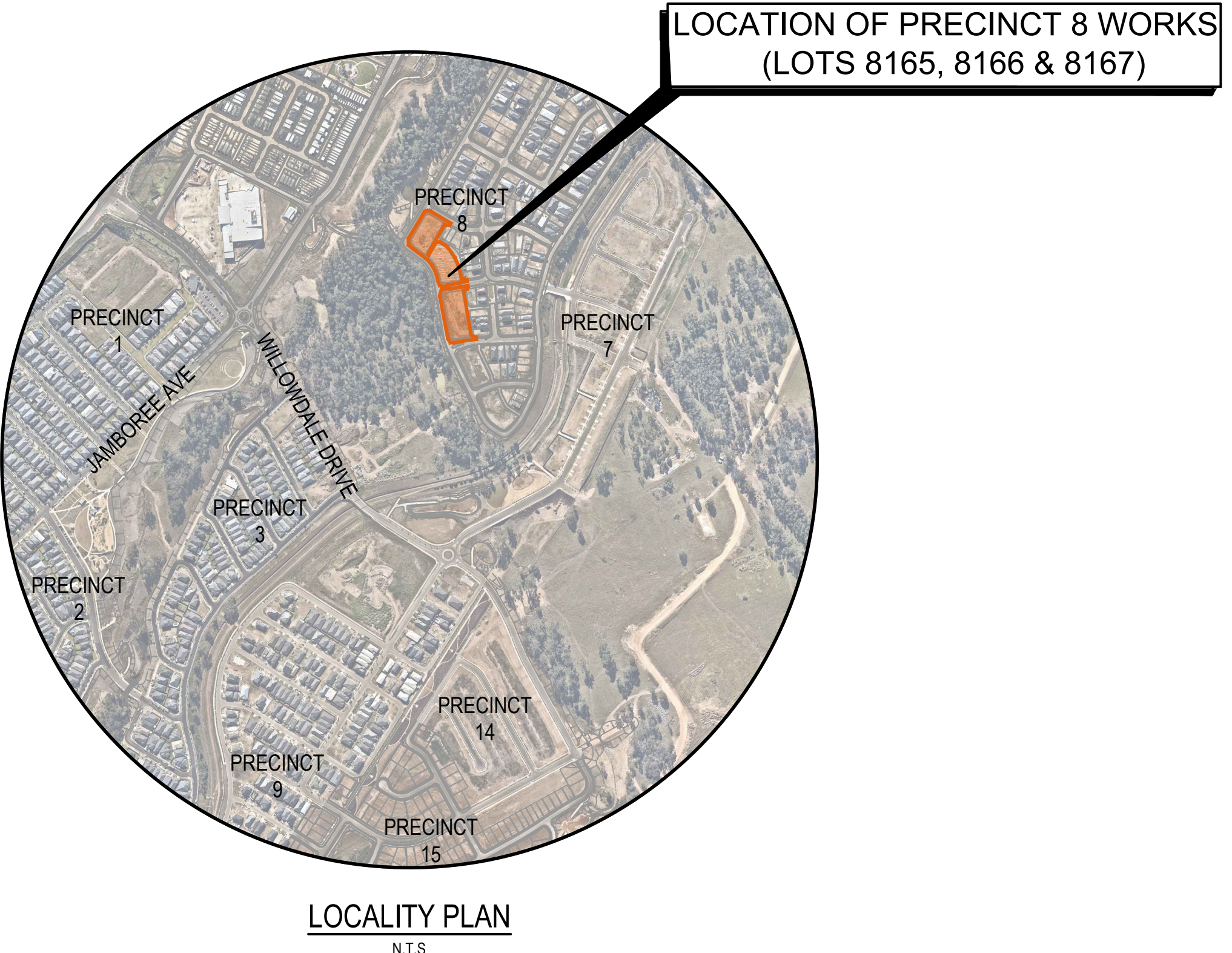
WILLOWDALE MEDIUM DENSITY - PRECINCT 8 (LOTS 8165, 8166 & 8167)


CIVIL WORKS - DEVELOPMENT APPLICATION

CAMPBELLTOWN CITY COUNCIL

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GENERAL NOTES

- ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH CAMPBELLTOWN CITY COUNCIL'S STANDARDS AND SPECIFICATIONS AND/OR AS DIRECTED BY THE SUPERINTENDENT.
- THE CONTRACTOR SHALL LOCATE AND LEVEL ALL EXISTING SERVICES PRIOR TO COMMENCING CONSTRUCTION AND SHALL MAKE ALL NECESSARY ARRANGEMENTS WITH THE RELEVANT AUTHORITY TO RELOCATE OR ADJUST AS REQUIRED. ALL COSTS TO BE BORNE BY THE APPLICANT, (NOT AT COUNCIL'S EXPENSE)
- THE CONTRACTOR SHALL NOT ENTER UPON OR DO ANY WORK WITHIN ADJACENT LANDS WITHOUT PRIOR WRITTEN PERMISSION OF THE LAND OWNER.
- SURVEY MARKS SHOWN THUS  SHALL BE MAINTAINED AT ALL TIMES. WHERE RETENTION IS NOT POSSIBLE THE SUPERINTENDENT SHALL BE NOTIFIED AND CONSENT RECEIVED PRIOR TO THEIR REMOVAL OR RELOCATION.
- ALL NEW WORKS SHALL MAKE SMOOTH JUNCTION WITH EXISTING CONDITIONS.
- SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED PRIOR TO SOIL DISTURBANCE IN KEEPING WITH THE "MANAGING STORMWATER MANUAL", 2004 BY LANDCOM.
- ALL LAND DISTURBED BY EARTHWORKS SHALL BE HYDROMULCHED, OR SIMILARLY TREATED TO ESTABLISH GRASS COVER. SEED MIXTURES ARE TO BE APPROVED BY COUNCIL PRIOR TO SPRAYING. ALL GRASSED AREAS SHALL BE REGULARLY WATERED AND MAINTAINED UNTIL EXPIRATION OF THE MAINTENANCE PERIOD.
- THE CONTRACTOR SHALL MAINTAIN DUST CONTROL THROUGHOUT THE DURATION OF THE PROJECT.
- MINIMUM 150mm THICK TOPSOIL SHALL BE SPREAD ON ALL VERGES, BERMS, BATTERS AND ON ALL LOTS. EXCESS TOPSOIL SHALL BE STOCKPILED FOR FUTURE LANDSCAPING USE AS DIRECTED BY THE SUPERINTENDENT.
- THE CONTRACTOR SHALL PROVIDE MINIMUM 48 HOURS NOTICE TO THE SUPERINTENDENT FOR ALL INSPECTIONS.
- THE CONTRACTOR SHALL MAINTAIN SERVICES AND ALL WEATHER ACCESS AT ALL TIMES TO THE ADJOINING PROPERTIES.
- THE CONTRACTOR SHALL UNDERTAKE TRAFFIC CONTROL MEASURES TO THE SUPERINTENDENT AND CAMPBELLTOWN CITY COUNCIL SATISFACTION AND SHALL DISPLAY APPROPRIATE WARNING SIGNS THROUGHOUT THE DURATION OF CONSTRUCTION.
- 100 YEAR FLOW PATHS TO BE FORMED AT TIME OF CONSTRUCTION.

SURVEY NOTES

- THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY CRAIG AND RHODES, BEING REGISTERED SURVEYORS.
- THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. ARCADIS 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 THE SUPERINTENDENT.

SURVEY REFERENCE NO.: 055-17G T02(00)-SITE
DATUM: A.H.D.
ORIGIN OF LEVELS: SSM 185832
RL 89.99 AHD

JOINTING NOTES

PEDESTRIAN PAVEMENT JOINTS

- ALL PEDESTRIAN PAVEMENTS ARE TO BE JOINTED AS FOLLOWS. (U.N.O)
- EXPANSION JOINTS ARE TO BE LOCATED WHERE POSSIBLE AT TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX. 6.0m CENTRES.
- WEAKENED PLANE JOINTS ARE TO BE LOCATED AT A MAX. SPACING OF 1.5 x WIDTH OF THE PAVEMENT.
- WHERE POSSIBLE JOINTS SHOULD BE LOCATED TO MATCH KERBING AND OR ADJACENT PAVEMENT JOINTS.

TRAFFIC CONTROL NOTES

- A TRAFFIC CONTROL PLAN IS TO BE PREPARED AND LODGED WITH COUNCIL BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.

STRUCTURAL INSPECTIONS

- STRUCTURAL INSPECTIONS ARE REQUIRED FOR STRUCTURES WHERE NOTED ON PLANS OR REQUIRED BY COUNCIL.
- 48 HOURS NOTICE IS REQUIRED FOR ALL INSPECTIONS.

EROSION AND SEDIMENT CONTROL

NOTES

GENERAL INSTRUCTIONS

- THE EROSION AND SEDIMENT CONTROLS SHOWN ON THE DRAWINGS IS A MINIMUM TREATMENT ONLY. THE CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING CONTROLS TO SUIT CONSTRUCTION STAGING, METHODOLOGY AND SITE CONDITIONS.
- ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH
 - LOCAL AUTHORITY REQUIREMENTS
 - EPA REQUIREMENTS
 - LANDCOM MANUAL "MANAGING URBAN STORMWATER, SOILS AND CONSTRUCTION", 4th EDITION, MARCH 2004.
- MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.
- WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.
- CONTRACTOR IS TO ENSURE ALL EROSION & SEDIMENT CONTROL DEVICES ARE MAINTAINED IN GOOD WORKING ORDER AND OPERATE EFFECTIVELY. REPAIRS AND OR MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED, PARTICULARLY FOLLOWING STORM EVENTS.

LAND DISTURBANCE

- WHERE PRACTICAL, THE SOIL EROSION HAZARD ON THE SITE WILL BE KEPT AS LOW AS POSSIBLE. TO THIS END, WORKS SHOULD BE UNDERTAKEN IN THE FOLLOWING SEQUENCE:
 - MAINTAIN EXISTING SECURITY / WIND FENCES INSTALLED AS PART OF THE ENABLING WORKS AND INSTALL NEW SECURITY / WIND FENCES AS SHOWN.
 - MAINTAIN EXISTING SEDIMENT FENCES INSTALLED AS PART OF THE ENABLING WORKS AND INSTALL NEW SEDIMENT FENCES AS SHOWN.
 - INSTALL SEDIMENT TRAPS AS SHOWN ON PLAN AND AS REQUIRED.
 - UNDERTAKE SITE DEVELOPMENT WORKS IN ACCORDANCE WITH THE ENGINEERING PLANS. WHERE POSSIBLE, PHASE DEVELOPMENT SO THAT LAND DISTURBANCE IS CONFINED TO AREAS OF WORKABLE SIZE.
 - DISTURBED AREAS TO BE GRASSED TO THE FOLLOWING STANDARDS:
 - EMBANKMENTS AND CREEKS - HYDRO MULCHED.
 - LOTS - SEEDDED.
 - VERGES - TURFED TO LANDSCAPE ARCHITECT'S SPECIFICATION.

EROSION CONTROL

- DURING WINDY WEATHER, LARGE UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.
- FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.
- SEDIMENT CONTROL
- STOCKPILES WILL NOT BE LOCATED WITHIN 2 METRES OF HAZARD AREAS, INCLUDING LIKELY AREAS OF CONCENTRATED OR HIGH VELOCITY FLOWS SUCH AS WATERWAYS. WHERE THEY ARE BETWEEN 2 AND 5 METRES FROM SUCH AREAS, SPECIAL SEDIMENT CONTROL MEASURES SHOULD BE TAKEN TO MINIMISE POSSIBLE POLLUTION TO DOWNSLOPE WATERS, E.G. THROUGH INSTALLATION OF SEDIMENT FENCING.
- ANY SAND USED IN THE CONCRETE CURING PROCESS (SPREAD OVER THE SURFACE) WILL BE REMOVED AS SOON AS POSSIBLE AND WITHIN 10 WORKING DAYS FROM PLACEMENT.
- WATER WILL BE PREVENTED FROM ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS IT IS RELATIVELY SEDIMENT FREE, I.E. THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR ANY LIKELY SEDIMENT HAS BEEN FILTERED THROUGH AN APPROVED STRUCTURE.
- TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED/STABILISED.

OTHER MATTERS

- ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.
- ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH LANDSCAPE ARCHITECTS DETAILS.

SITE COMPOUND

- CONTRACTOR TO CONFIRM SITE COMPOUND AND FACILITIES LOCATION WITH SUPERINTENDENT.

PAVEMENT NOTE

- PAVEMENT DESIGN SHOWN ON PLANS IS SUBJECT TO DETAIL DESIGN.
- PAVEMENT IS TO BE SUPPLIED IN ACCORDANCE WITH COUNCIL SPECIFICATION.

BULK EARTHWORKS NOTES

- ORIGIN OF LEVELS: REFER SURVEY NOTES.
- STRIP ALL TOPSOIL / ORGANIC MATERIAL (100mm NOMINAL) FROM CONSTRUCTION AREA AND REMOVE FROM SITE OR STOCK PILE AS DIRECTED BY PRINCIPLE.
- EXCAVATED MATERIAL MAY BE USED AS STRUCTURAL FILL PROVIDED THE PLACEMENT MOISTURE CONTENT OF THE MATERIAL IS -1%+2% OF THE OPTIMUM MOISTURE CONTENT AND THE GEOTECHNICAL ENGINEER PROVIDES WRITTEN APPROVAL THAT THE MATERIAL IS SUITABLE.
- COMPACT FILL AREAS AND SUBGRADE TO NOT LESS THAN:

LOCATION	MINIMUM STANDARD DRY DENSITY
(AS 1289 E 5.1.1.)	
UNDER BUILDING SLABS ON GROUND	98%
UNDER ROADS, FOOTWAYS AND CAR PARKS	98%
LANDSCAPED AREAS UNLESS NOTED OTHERWISE	96%
- BEFORE PLACING FILL, PROOF ROLL EXPOSED SUBGRADE WITH AN 12 TONNE (MIN) DEADWEIGHT SMOOTH DRUM NON-VIBRATORY ROLLER TO DETECT THEN REMOVE SOFT SPOTS (AREAS WITH MORE THAN 2mm MOVEMENT UNDER ROLLER).
- FILL MATERIAL SHALL BE SPREAD IN LAYERS MAXIMUM 250mm THICK AND COMPACTED TO SPECIFICATION.
- NO FILLING SHALL TAKE PLACE TO EXPOSED SUBGRADE UNTIL THE AREA HAS BEEN PROOF ROLLED IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER AND APPROVAL GIVEN IN WRITING THAT FILLING CAN PROCEED.
- WHERE GROUNDWATER DISCHARGE OCCURS IN BULK EXCAVATIONS OR CUT FACES, SUBSOIL DRAINAGE SHALL BE INSTALLED IN ACCORDANCE WITH THE PRINCIPLE / GEOTECH INSTRUCTIONS TO DIRECT DISCHARGE WATER TO THE NEAREST STORMWATER / SEDIMENTATION CONTROL DEVICE. THE SUBSOIL DRAINAGE MUST BE INSTALLED AS SOON AS PRACTICALLY POSSIBLE AFTER EXCAVATION. SUBSOIL DRAINAGE SHALL ALSO BE INSTALLED AT LOW POINTS IN THE FINISHED EARTHWORK PROFILE IN ACCORDANCE WITH THE SITE SUPERINTENDENT / GEOTECH'S INSTRUCTIONS.
- ENSURE TEMPORARY DIVERSION CHANNELS ARE CONSTRUCTED AROUND STOCKPILED MATERIALS AND DISTURBED AREAS GENERALLY AS DETAILED.
- THE CONTRACTOR SHALL ALLOW FOR AND COORDINATE ALL MONITORING AND MAINTENANCE REQUIREMENTS IN RELATION TO SOIL AND GROUNDWATER CONDITIONS DURING CONSTRUCTION.
- ALL EARTHWORKS TO BE CARRIED OUT IN ACCORDANCE WITH AS 3798 AND RMS SPECIFICATION R44.
- WORKS TO BE IN ACCORDANCE WITH ALL GEOTECHNICAL REPORTS.

SITEWORKS NOTES

- ORIGIN OF LEVELS:- REFER SURVEY NOTES.
- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES TO BE REPORTED TO ARCADIS.
- MAKE SMOOTH CONNECTION WITH EXISTING WORKS.
- ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.
- SEWER, POTABLE WATER AND RECYCLED WATERMANS BACKFILL TO BE IN ACCORDANCE WITH WS403-2002:2.2, WAT-1201, WAT-1202, WAT-1203 AND WAT-1204-V. ALL OTHER SERVICE TRENCHES UNDER VEHICULAR PAVEMENTS SHALL BE BACKFILLED WITH SAND TO 300mm ABOVE PIPE, WHERE PIPE IS UNDER PAVEMENTS BACKFILL REMAINDER OF TRENCH TO UNDERSIDE OF PAVEMENT WITH SAND OR APPROVED GRANULAR MATERIAL COMPACTED IN 150mm LAYERS TO MINIMUM 98% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75)
- PROVIDE 10mm WIDE EXPANSION JOINTS BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVEMENTS.
- ASPHALTIC CONCRETE SHALL CONFORM TO R.M.S. SPECIFICATION R116.
- ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S. SPECIFICATION 3051 COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m² OF BASECOURSE MATERIAL PLACED.
- ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S. SPECIFICATION 3051 AND COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH A.S 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m² OF SUB-BASE COURSE MATERIAL PLACED.
- AS AN ALTERNATIVE TO THE USE OF IGNEOUS ROCK AS A SUB-BASE MATERIAL IN (b) A CERTIFIED RECYCLED CONCRETE MATERIAL COMPLYING WITH R.M.S. FORM 3051 WILL BE CONSIDERED, SUBJECT TO MATERIAL SAMPLES AND APPROPRIATE CERTIFICATIONS BEING PROVIDED TO THE SATISFACTION OF THE SUPERINTENDENT.
- SHOULD THE CONTRACTOR WISH TO USE A RECYCLED PRODUCT THIS SHALL BE CLEARLY INDICATED IN THEIR TENDER AND THE PRICE DIFFERENCE BETWEEN AN IGNEOUS PRODUCT AND A RECYCLED PRODUCT SHALL BE CLEARLY INDICATED.
- WHERE NOTED ON THE DRAWINGS THAT WORKS ARE TO BE CARRIED BY OTHERS, (eg ADJUSTMENT OF SERVICES), THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF THESE WORKS.
- ALL FOOTPATHS AND CYCLEWAYS TO BE IN ACCORDANCE WITH CAMPBELLTOWN CITY COUNCIL STANDARD DRAWINGS SD-R11 AND SD-R12.

KERBING NOTES

- ALL CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 25 MPa U.N.O IN REINFORCED CONCRETE NOTES OR CAMPBELLTOWN CITY COUNCIL SPECIFICATIONS.
- ALL KERBS, GUTTERS, DISH DRAINS AND CROSSINGS TO BE CONSTRUCTED ON 100mm GRANULAR BASECOURSE COMPACTED TO MINIMUM 98% MODIFIED DRY DENSITY (AS 1289 5.2.1).
- EXPANSION JOINTS (E.J) TO BE FORMED FROM 10mm COMPRESSIBLE CORK FILLER BOARD FOR THE FULL DEPTH OF THE SECTION AND CUT TO PROFILE. EXPANSION JOINTS TO BE LOCATED AT DRAINAGE PITS, ON TANGENT POINTS OF CURVES AND ELSEWHERE AT MAX 12m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE EXPANSION JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
- WEAKENED PLANE JOINTS TO BE MIN 3mm WIDE AND LOCATED AT 3m CENTRES EXCEPT FOR INTEGRAL KERBS WHERE THE WEAKENED PLANE JOINTS ARE TO MATCH THE JOINT LOCATIONS IN THE SLABS.
- BROOMED FINISH TO ALL RAMPED AND VEHICULAR CROSSINGS. ALL OTHER KERBING OR DISH DRAINS TO BE STEEL FLOAT FINISHED.
- IN THE REPLACEMENT OF KERB AND GUTTER - EXISTING ROAD PAVEMENT IS TO BE SAWCUT 900mm U.N.O FROM THE LIP OF GUTTER. UPON COMPLETION OF THE NEW KERB AND GUTTER NEW BASECOURSE AND SURFACE TO BE LAID 900mm WIDE U.N.O.
- ALLOTMENT DRAINAGE PIPES CONNECTED TO THE ROLLKERB AND GUTTER SHALL CONSIST OF A RECTANGULAR HOLLOW SECTION (GALVANISED STEEL) AT THE LOW SIDE OF THE PROPOSED LOT.
- PRAM RAMP GRADES SHALL BE MAX 1 IN 14. IN SPECIAL CIRCUMSTANCES GRADES SHALL BE ABSOLUTE MAX 1 IN 8.



CONCRETE NOTES

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- CONCRETE QUALITY ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.

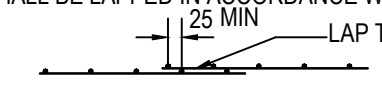
ELEMENT	AS 3600 Fc MPa AT 28 DAYS	SPECIFIED SLUMP	NOMINAL AGG. SIZE
VEHICULAR BASE	32	60	20
KERBS, PATHS,	25	80	20
PITS	32	80	20

- CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL
- PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379.

- NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY THE SUPERINTENDENT.
- ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1m CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS.
- THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK, THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND IN TRENCHES SHALL BE COMPACTED AND CURED IN ACCORDANCE WITH R.T.A. SPECIFICATION R83.
- REINFORCEMENT SYMBOLS: N DENOTES GRADE 500 N BARS TO AS 4671, GRADE N R DENOTES 250 R HOT ROLLED PLAIN BARS TO AS 4671, SL DENOTES COLD-DRAWN WIRE REINFORCING FABRIC TO AS 4671

NUMBER OF BARS IN GROUP  BAR GRADE AND TYPE
17N20-250
NOMINAL BAR SIZE IN mm  SPACING IN mm

THE FIGURE FOLLOWING THE FABRIC SYMBOL SL IS THE REFERENCE NUMBER FOR FABRIC TO AS 4671.

- FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL:
- EXTERNAL CONCRETE ELEMENTS SHALL MEET THE FOLLOWING REQUIREMENTS: MINIMUM PORTLAND CEMENT CONTENT 300 kg/m³, MAXIMUM WATER RATIO 0.5, AND CHLORIDE CONTENT RESTRICTED AS PER CLAUSE 4.9 OF AS3600.

TELSTRA - DUTY OF CARE NOTE

TELSTRA'S PLANS SHOW ONLY THE PRESENCE OF CABLES AND PLANT. THEY ONLY SHOW THEIR POSITION RELATIVE TO ROAD BOUNDARIES, PROPERTY FENCES ETC. AT THE TIME OF INSTALLATION AND TELSTRA DOES NOT WARRANT OR HOLD OUT THAT SUCH PLANS ARE ACCURATE THEREAFTER DUE TO CHANGES THAT MAY OCCUR OVER TIME. DO NOT ASSUME DEPTH OR ALIGNMENT OF CABLES OR PLANT AS THESE VARY SIGNIFICANTLY. THE CONTRACTOR HAS A DUTY OF CARE WHEN EXCAVATING NEAR TELSTRA CABLES AND PLANT. BEFORE USING MACHINE EXCAVATORS TELSTRA PLANT MUST FIRST BE PHYSICALLY EXPOSED BY SOFT DIG POT-HOLING TO IDENTIFY ITS LOCATION TELSTRA WILL SEEK COMPENSATION FOR DAMAGES CAUSED TO IT'S PROPERTY AND LOSSES CAUSED TO TELSTRA AND IT'S CUSTOMERS.

REINFORCEMENT STEEL

- WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 AND ANY OTHER APPLICABLE CODES EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTATION.
- REINFORCEMENT TYPE AND GRADE

REINFORCEMENT NOTATION TYPE	DESCRIPTION AND TYPE	CLASSIFICATION AND DESIGNATION TO AS/NZS 4671
N	HOT ROLLED DEFORMED BAR, MICROALLOY TEMPCORE	D500N

- BAR NOTATION GIVES THE FOLLOWING INFORMATION IN THE FOLLOWING ORDER: e.g. 20N16-200T. - NO. OF BARS, TYPE, BAR SIZE (mm), SPACING (mm), LAYER (200 TOP).

T = TOP
B = BOTTOM
T 1ST LAYER
B 1ST LAYER
T 2ND LAYER
B 2ND LAYER

- REINFORCEMENT LAPS LAP REINFORCEMENT ONLY AT LOCATIONS SHOWN ON THE DRAWINGS OR AS APPROVED BY THE ENGINEER IN WRITING, U.N.O. LAP ALL BARS AS TABULATED BELOW:

SLAB REINFORCEMENT	
BAR SIZE	MINIMUM LAP LENGHT (mm)
N12	450
N16	650

WALL REINFORCEMENT	
BAR SIZE	MINIMUM LAP LENGHT (mm)
N12	500
N16	650
N20	800
N24	960

EXISTING UNDERGROUND SERVICES

- THE LOCATIONS OF UNDERGROUND SERVICES SHOWN IN THIS SET OF DRAWINGS HAVE BEEN PLOTTED FROM SURVEY INFORMATION AND SERVICE AUTHORITY INFORMATION.
- THE SERVICE INFORMATION HAS BEEN PREPARED ONLY TO SHOW THE APPROXIMATE POSITIONS OF ANY KNOWN SERVICES AND MAY NOT BE AS CONSTRUCTED OR ACCURATE.
- ARCADIS CAN NOT GUARANTEE THAT THE SERVICES INFORMATION SHOWN ON THESE DRAWINGS ACCURATELY INDICATES THE PRESENCE OR ABSENCE OF SERVICES OR THEIR LOCATION AND WILL ACCEPT NO LIABILITY FOR INACCURACIES IN THE SERVICES INFORMATION SHOWN FROM ANY CAUSE WHATSOEVER.
- CONTRACTORS SHALL TAKE DUE CARE WHEN EXCAVATING ONSITE INCLUDING HAND EXCAVATION WHERE NECESSARY.
- CONTRACTORS ARE TO CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.
- CONTRACTORS ARE TO UNDERTAKE A SERVICES SEARCH, PRIOR TO COMMENCEMENT OF WORKS ON SITE. SEARCH RESULTS ARE TO BE KEPT ON SITE AT ALL TIMES.

STORMWATER DRAINAGE NOTES

- STORMWATER DESIGN CRITERIA:
 - MINOR SYSTEM - 20% ANNUAL EXCEEDANCE PROBABILITY (AEP)
 - MAJOR SYSTEM - 1% AEP
 - INTERALLOTMENT - 5% AEP
- ALL STORMWATER DRAINAGE INFRASTRUCTURE TO BE CONSTRUCTED IN ACCORDANCE WITH RELEVANT CAMPBELLTOWN CITY COUNCIL ENGINEERING SPECIFICATIONS.
- ALL STORMWATER PIPES 300mm Ø AND LARGER SHALL BE REINFORCED CONCRETE CLASS 3 APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O.
- PIPES UP TO 300 Ø SHALL BE SEWER GRADE UPVC WITH SOLVENT WELDED JOINTS.
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH COUNCIL SPECIFICATION AND AS3725. TYPE HS3 SUPPORT SHALL BE USED IN ROAD RESERVES. TYPE HS2 SUPPORT SHALL BE USED ELSEWHERE U.N.O.
- ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500 3.1 AND AS/NZS 3500 3.2.
- PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY THE SUPERINTENDENT.
- ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300mm Ø.
- SUBSOIL DRAINS SHALL BE CONSTRUCTED TO THE SATISFACTION OF THE COUNCIL AND IN ACCORDANCE WITH THEIR STANDARDS AND SPECIFICATIONS.
- INTERALLOTMENT DRAINAGE LINES SHALL HAVE A MINIMUM 350mm COVER AND DESIRABLE MINIMUM GRADE OF 1%.
- WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED UPVC SEWER GRADE PIPE IS TO BE USED.
- CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.
- GRATES AND COVERS SHALL CONFORM TO AS 3996.

CONT. STORMWATER DRAINAGE NOTES

- ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.
- ALL EXISTING STORMWATER DRAINAGE LINES AND PITS THAT ARE TO REMAIN ARE TO BE INSPECTED AND CLEANED. DURING THIS PROCESS ANY PART OF THE STORMWATER DRAINAGE SYSTEM THAT WARRANTS REPAIR SHALL BE REPORTED TO THE SUPERINTENDENT/ENGINEER FOR FURTHER DIRECTIONS.
- GALVANISED STEEL STEP IRONS ARE TO BE PROVIDED IN ALL PITS DEEPER THAN 1.2m IN ACCORDANCE WITH CAMPBELLTOWN CITY COUNCIL REQUIREMENTS.
- MINIMUM PIPE SIZE WITHIN ROAD RESERVE TO BE 375mm Ø U.N.O.
- CCTV ALL PIPES AFTER CONSTRUCTION AND PRIOR TO PRACTICAL COMPLETION. THIS INCLUDES ALL EXISTING PIPES THAT ARE TO BE RETAINED.
- PIPES ARE DESIGNED FOR OPERATIONAL LOADS ONLY. APPROPRIATE MEASURES SHOULD BE TAKEN TO PROTECT PIPES DURING CONSTRUCTION.
- ALL DIRECT CONNECTIONS TO BE MINIMUM 150mm Ø PVC PIPEWORK, LAID AT MINIMUM 1.0% GRADE FROM POINT OF CONNECTION.

PROPOSED SERVICES NOTES

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH SERVICE AUTHORITY DRAWINGS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL ATTEND, MANAGE & SUPERVISE THE PROVISION OF PUBLIC UTILITY SERVICES TO THE WORKS GENERALLY INDICATED ON THE SERVICES PLANS, NOTING THAT PRIOR & DURING CONSTRUCTION THE PUBLIC UTILITY AUTHORITIES WILL FINALISE THEIR DOCUMENTATION TO CONSTRUCTION ISSUE STANDARD. THE FOLLOWING GENERAL ARRANGEMENTS SHALL APPLY IN RESPECT OF EACH PUBLIC UTILITY SERVICE.

ENDEAVOUR ENERGY

THE CONTRACTOR SHALL ALLOW FOR THE QUOTATION AND INSTALLATION OF ELECTRICAL DUCTING AND RETICULATION IN ACCORDANCE WITH THE SUPPLIED ENDEAVOUR ENERGY PLANS. THE CIVIL CONTRACTOR WILL BE REQUIRED TO EXCAVATE AND BACKFILL THE AUTHORITIES TRENCHES GENERALLY IN ACCORDANCE WITH THE "TRENCH SHARING AGREEMENT" DATED 2009. THE CIVIL CONTRACTOR SHALL EXCAVATE, SUPPLY, LAY AND BACKFILL ROAD CROSSING CONDUITS.

TELSTRA

THE CIVIL CONTRACTOR IS TO ALLOW FOR THE ADJUSTMENT OF THE EXISTING TELSTRA SERVICES AS REQUIRED TO ENABLE THE CIVIL WORKS. TELSTRA WILL SUPPLY AND LAY THEIR CONDUITS AT NO COST, BUT THE CIVIL CONTRACTOR WILL NEED TO ALLOW FOR EXCAVATION AND BACKFILLING OF THE AUTHORITIES TRENCH AS WELL AS EXCAVATE, LAY AND BACKFILL ROAD CROSSING CONDUITS.

JEMENA

THE CIVIL CONTRACTOR IS TO EXCAVATE AND BACKFILL SERVICE TRENCHES AS WELL AS EXCAVATE, SUPPLY, LAY AND BACKFILL ROAD CROSSING CONDUITS. JEMENA WILL SUPPLY AND LAY THEIR SERVICES IN THE TRENCH PROVIDED BY THE CIVIL CONTRACTOR.

NBN

THE CIVIL CONTRACTOR SHALL SUPPLY AND LAY CONDUITS AND PITS IN ACCORDANCE WITH THE NBN SERVICE PLANS.

CONDUIT ROAD CROSSING

THE CIVIL CONTRACTOR SHALL ALLOW IN THEIR PRICE FOR CONDUIT CROSSINGS UNDER THE PROPOSED ROADS AS SHOWN ON THE "COMBINED SERVICES PLAN".

SEWER AND WATER

THE CIVIL CONTRACTOR SHALL CONSTRUCT THE SEWER AND WATER MAINS AND ASSOCIATED WORKS AS SHOWN ON SYDNEY WATER DRAWINGS.


- THE CIVIL CONTRACTOR (TRENCH PROVIDER) IS TO ARRANGE ON SITE MEETING WITH ALL SERVICE AUTHORITIES PRIOR TO THE INSTALLATION OF CONDUITS.
- THE CIVIL CONTRACTOR TO CO-ORDINATE INSTALLATION OF ELECTRICITY, GAS AND TELECOMMUNICATION SERVICES.
- ELECTRICITY, GAS AND TELECOMMUNICATION SERVICES ARE TO BE LAID FOLLOWING THE INSTALLATION OF STORMWATER, SEWER AND WATER SERVICES AND KERB AND GUTTER.
- ALL UTILITY AUTHORITY REPRESENTATIVES TO INSPECT ROAD CROSSINGS PRIOR TO SEALING.
- ALL ELECTRICAL ROAD CROSSINGS TO BE CLASS 6 (ORANGE) uPVC CONDUITS.
- ALL GAS ROAD CROSSINGS TO BE uPVC GREY SEWER GRADE CONDUITS.
- ALL STREET POLES TO BE POSITIONED PER ENDEAVOUR ENERGY SPECIFICATIONS. CONTRACTOR TO ALLOW TO EXCAVATE AND BACKFILL TRENCH GENERALLY IN ACCORDANCE WITH NOTE 2.
- WHERE FOOTPATHS ARE TO BE CONSTRUCTED, ALL SERVICE PIT COVERS AND MARKERS ARE TO BE LAID WHOLLY WITHIN THE CONCRETE FOOTPATH. CONTACT SUPERINTENDENT SHOULD DIFFICULTIES ARISE.
- ELECTRICITY CONDUITS ARE SHOWN FOR CLARITY, HOWEVER, CABLES MAY BE DIRECTLY BURIED. APPROVAL BY ENDEAVOUR ENERGY REQUIRED.
- SERVICES MARKERS ARE TO BE PLACED ON THE KERB & GUTTER AT ALL ROAD CROSSING POINTS, ON BOTH SIDES OF THE ROAD.
- ALL SERVICE PIT COVERS TO BE INSTALLED FLUSH WITH PROPOSED VERGE LEVELS AND GRADES.

01	ISSUE FOR APPROVAL	13/06/2018
Issue	Description	Date

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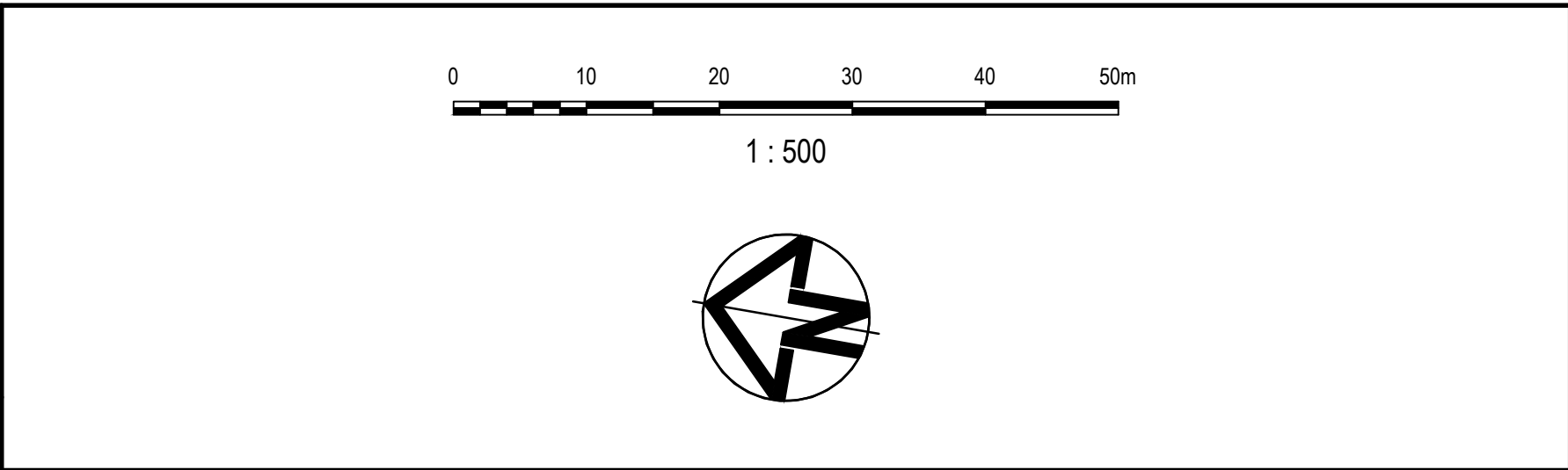
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Original Size	A1
Height Datum	AHD
Grid	MGA
Filename:	C:02-002-10006946-mnd-GeneralNotes.dwg

Project	WILLOWDALE MEDIUM DENSITY PRECINCT 8 LOTS 8165, 8166 & 8167
Title	GENERAL NOTES
Drawn	J.QUIAMBAO
Designed	D. GARCIA
Checked	A. KALAJZICH
Approved	D. SINGH
File name:	C:02-002-10006946-mnd-GeneralNotes.dwg

 Arcadis Australia Pacific Pty Limited Level 16, 580 George St SYDNEY NSW 2000 ABN 76 104 485 289 Tel No: +61 2 8907 9000 Fax No: +61 2 8907 9001 arcadis.com	Drawing No. Project No. Issue C-02-002 — 10006946 — 01
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01	ISSUE FOR APPROVAL	13/06/2018
Issue	Description	Date



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Designed D. GARCIA	
Checked A. KALAJZICH	
Approved D. SINGH	

Project

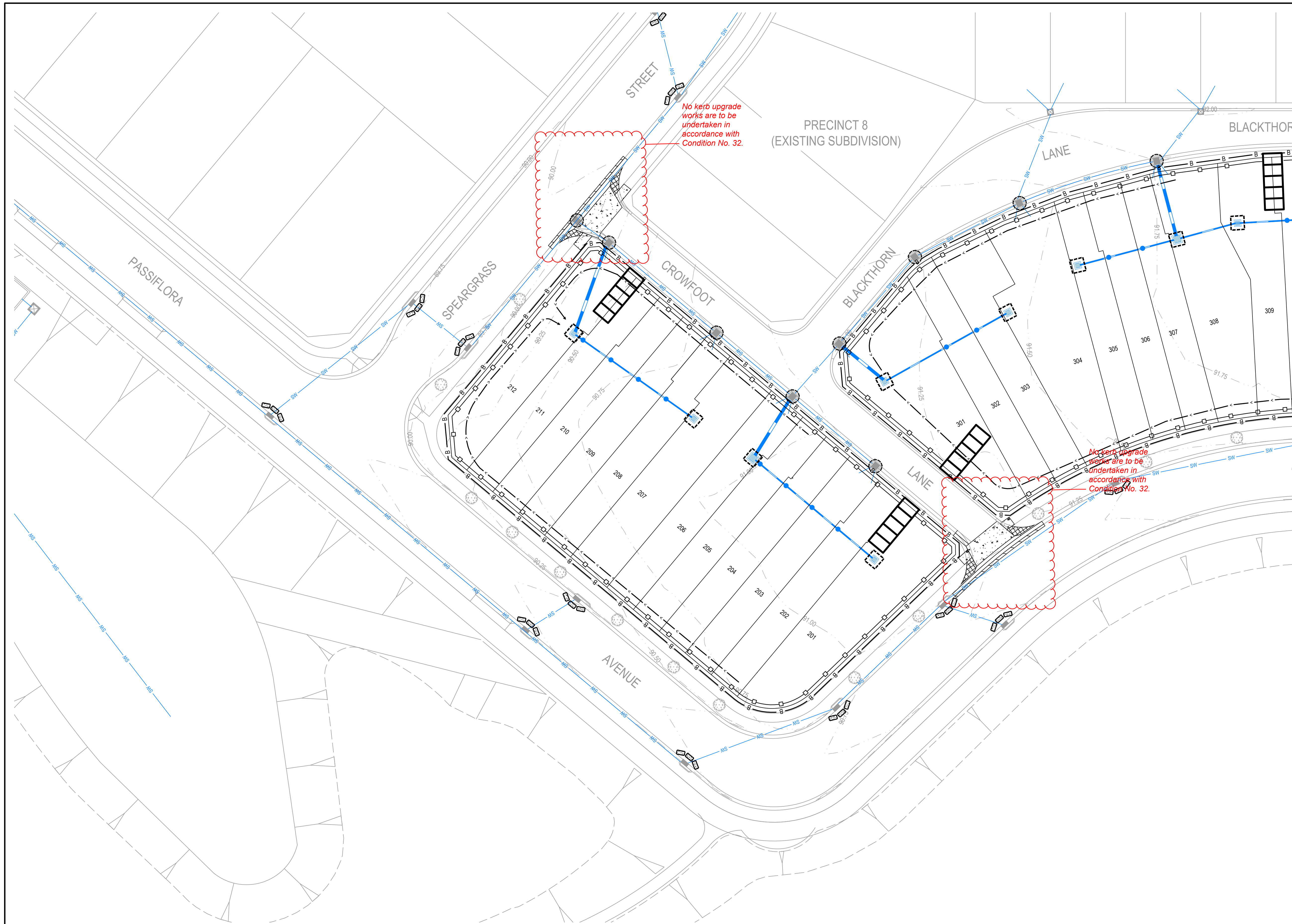
**WILLOWDALE
MEDIUM DENSITY
PRECINCT 8
LOTS 8165, 8166 & 8167**

Title

**GENERAL ARRANGEMENT
PLAN**

Arcadis Australia Pacific Pty Limited
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Fax No: +61 2 8907 9001
arcadis.com

Drawing No.	Project No.	Issue
C-02-006	10006946	01



LEGEND

EXISTING CONTOUR

EXISTING TREE TO BE RETAINED

EXISTING KERB INLET STORMWATER PIT

EXISTING STORMWATER PIT WITH GRATE / CAST IRON COVER

BARRIER FENCE (ATF OR SIMILAR WITH SHADE CLOTH - 40% POROSITY)

SEDIMENT FENCE (SD 6-8)

GEOTEXTILE INLET FILTER (SD 6-12)

WRAP EXISTING GRATE IN GEOTEXTILE FILTER MATERIAL

EARTHBANK (SD 6-5)

MESH AND GRAVEL INLET FILTER (SD 6-11) OR SAND BAG INLET FILTER (AS SHOWN ON C-02-106)

EXISTING STORMWATER PIPE

STORMWATER PIT WITH GRATE

STABILISED SITE ACCESS (SD6-14)

STORMWATER DRAINAGE PIPE

PROPOSED Ø100 uPVC STORMWATER PROPERTY CONNECTION WITH STUB OUTLET TO ROAD KERB U.N.O.

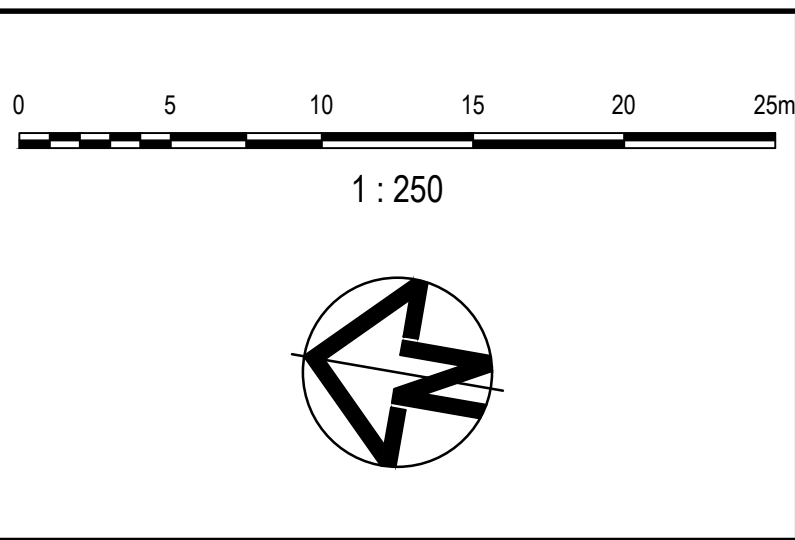
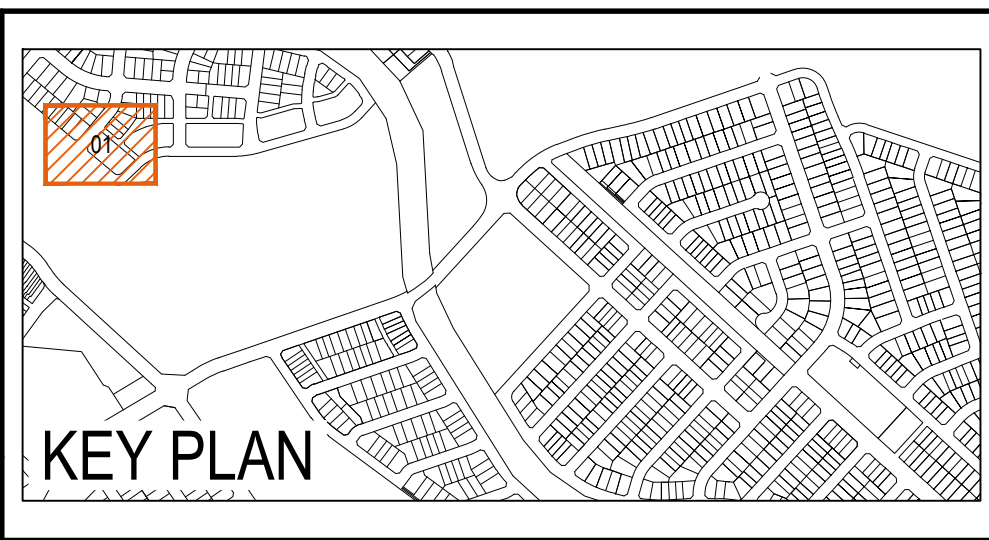
- NOTES**
1. SD STANDARD DRAWINGS AND DETAILS WITHIN 'MANAGING URBAN STORMWATER SOIL AND CONSTRUCTION' (BLUE BOOK).

2. REFER TO DRAWING C-02-106 FOR SEDIMENT AND EROSION DETAILS

3. ON GRADE PIT PROTECTION TO BE SANDBAG SEDIMENT TRAP (AS SHOWN ON C-02-106), SAG PIT PROTECTION TO BE MESH GRAVEL INLET FILTER (AS SHOWN ON C-02-106), CONTRACTOR TO CONFIRM EXACT LOCATION OF EACH TREATMENT TYPE ONSITE.

FOR CONTINUATION REFER DRAWING C-02-102

01	ISSUE FOR APPROVAL	13/06/2018
Issue	Description	Date



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Scales	1 : 250	
	Current Issue Signatures	
Original Size	A1	Drawn J. QUIAMBAO
Height Datum	AHD	Designed D. GARCIA
Grid	MGA	Checked A. KALAJZICH
		Approved D. SINGH

Project

WILLOWDALE
MEDIUM DENSITY
PRECINCT 8
LOTS 8165, 8166 & 8167

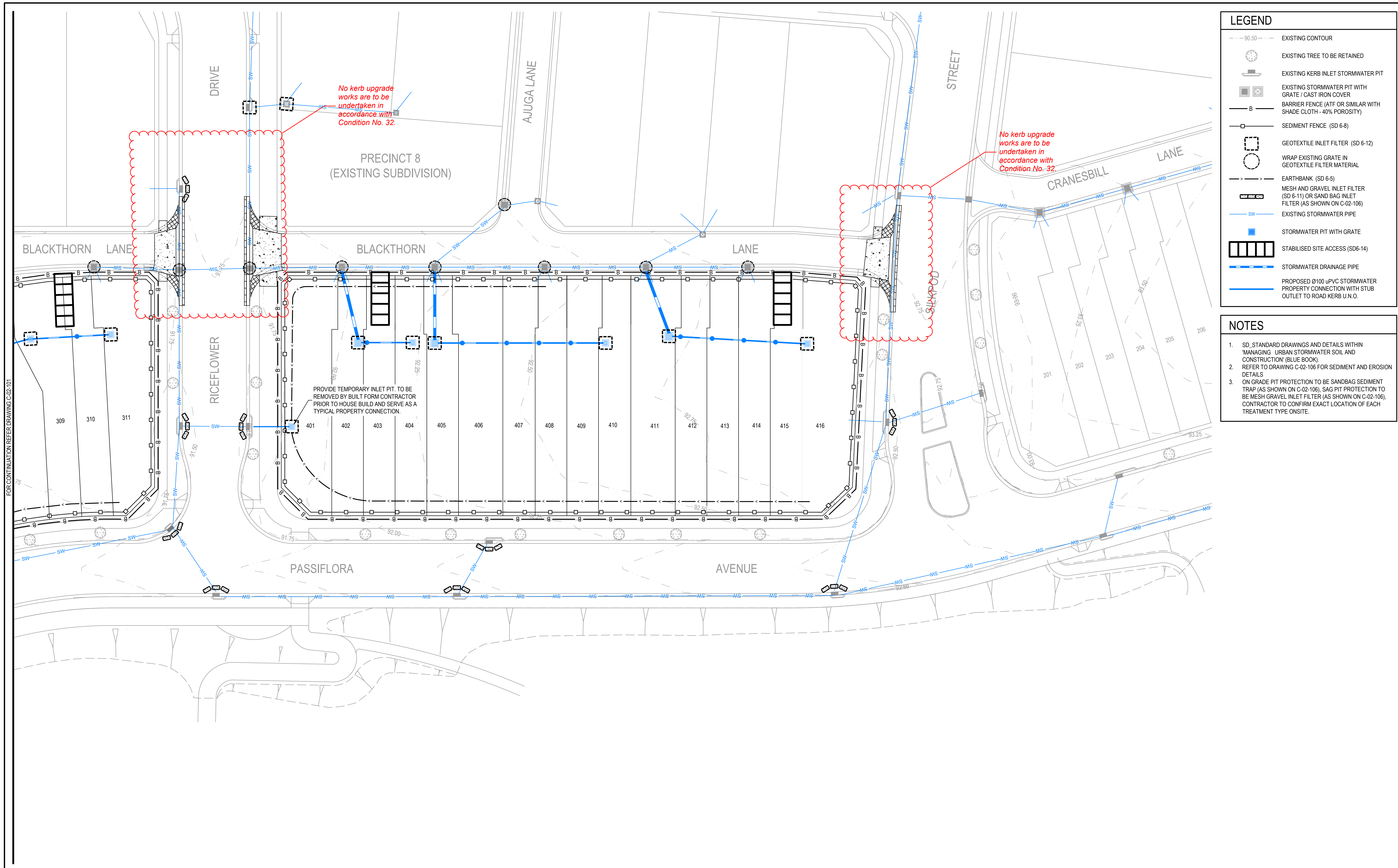
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EROSION AND SEDIMENT
CONTROL PLAN
SHEET 1 OF 2

Arcadis Australia Pacific Pty Limited
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SYDNEY NSW 2000
ABN 76 104 485 289
Tel No: +61 2 8907 9000
Fax No: +61 2 8907 9001
arcadis.com

Drawing No. Project No. Issue

C-02-101 10006946 01



LEGEND

EXISTING CONTOUR

EXISTING TREE TO BE RETAINED

EXISTING KERB INLET STORMWATER PIT

EXISTING STORMWATER PIT WITH GRATE / CAST IRON COVER

BARRIER FENCE (ATF OR SIMILAR WITH SHADE CLOTH - 40% POROSITY)

SEDIMENT FENCE (SD 6-8)

GEOTEXTILE INLET FILTER (SD 6-12)

WRAP EXISTING GRATE IN GEOTEXTILE FILTER MATERIAL

EARTHBANK (SD 6-5)

MESH AND GRAVEL INLET FILTER (SD 6-11) OR SAND BAG INLET FILTER (AS SHOWN ON C-02-106)

EXISTING STORMWATER PIPE

STORMWATER PIT WITH GRATE

STABILISED SITE ACCESS (SD6-14)

STORMWATER DRAINAGE PIPE

PROPOSED Ø100 uPVC STORMWATER PROPERTY CONNECTION WITH STUB OUTLET TO ROAD KERB U.N.O.

NOTES

1. SD_ STANDARD DRAWINGS AND DETAILS WITHIN 'MANAGING URBAN STORMWATER SOIL AND CONSTRUCTION' (BLUE BOOK).

2. REFER TO DRAWING C-02-106 FOR SEDIMENT AND EROSION DETAILS

3. ON GRADE PIT PROTECTION TO BE SANDBAG SEDIMENT TRAP (AS SHOWN ON C-02-106), SAG PIT PROTECTION TO BE MESH GRAVEL INLET FILTER (AS SHOWN ON C-02-106), CONTRACTOR TO CONFIRM EXACT LOCATION OF EACH TREATMENT TYPE ONSITE.

01 ISSUE FOR APPROVAL

13/06/2018

Issue

Description

Date

KEY PLAN

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Current Issue Signatures

Drawn

J.QUIAMBAO

Designed

D. GARCIA

Checked

A. KALAJZICH

Approved

D. SINGH

Project

WILLOWDALE
MEDIUM DENSITY
PRECINCT 8
LOTS 8165, 8166 & 8167

Title

EROSION AND SEDIMENT
CONTROL PLAN
SHEET 2 OF 2

Arcadis Australia Pacific Pty Limited
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Tel No: +61 2 8907 9000
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Drawing No.

Project No.

Issue

C-02-102

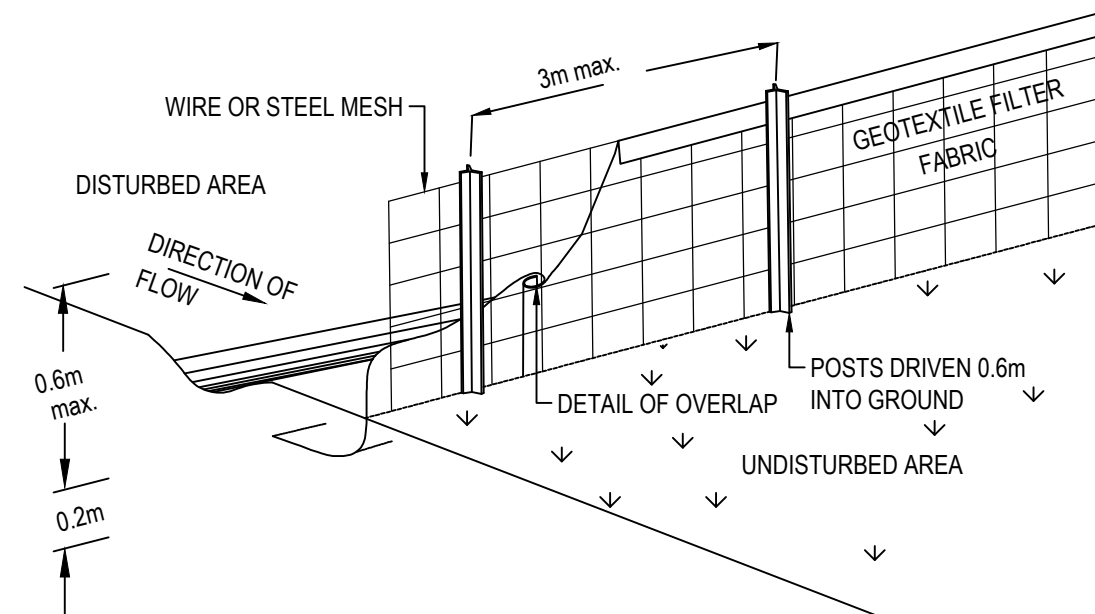
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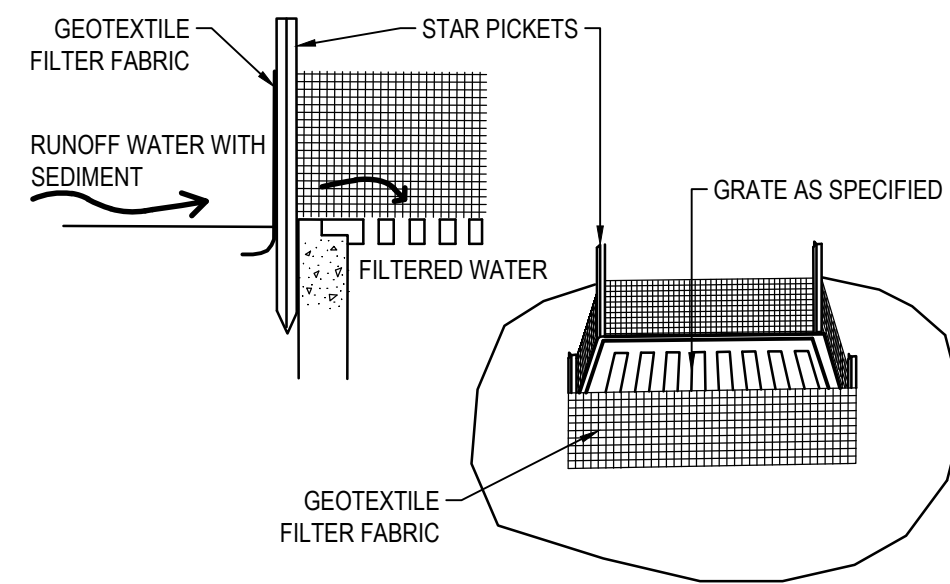
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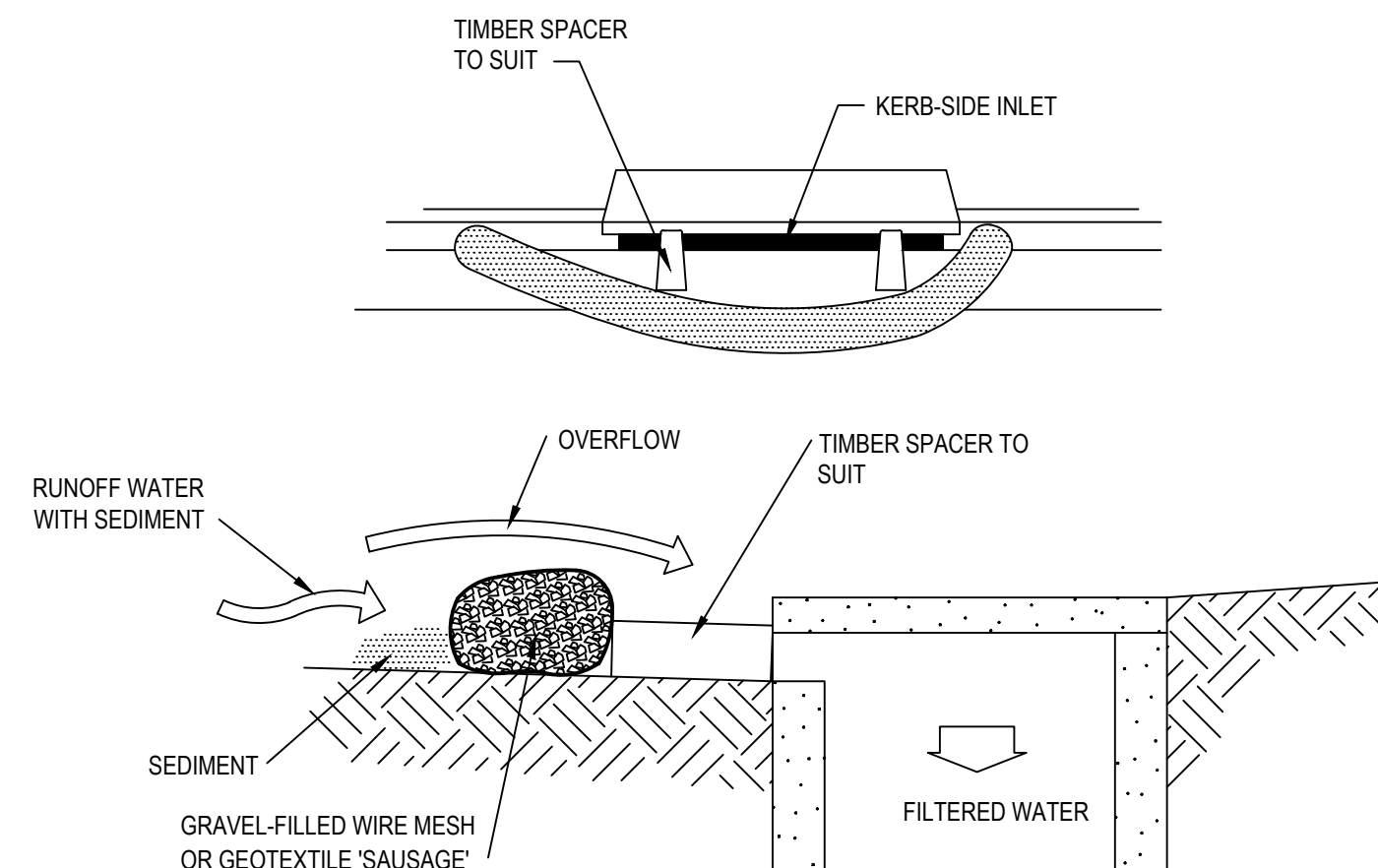
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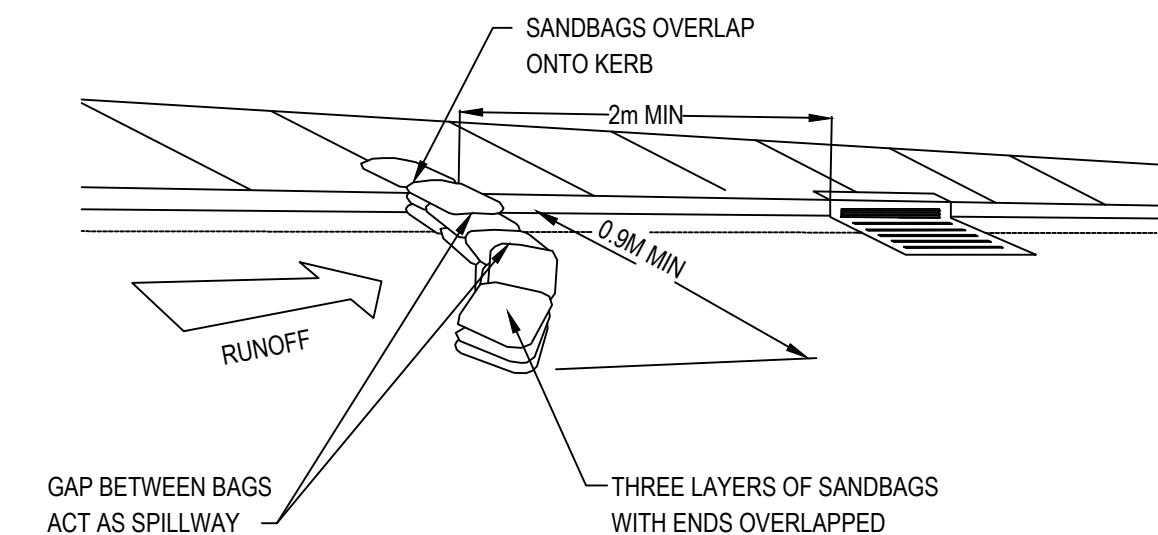
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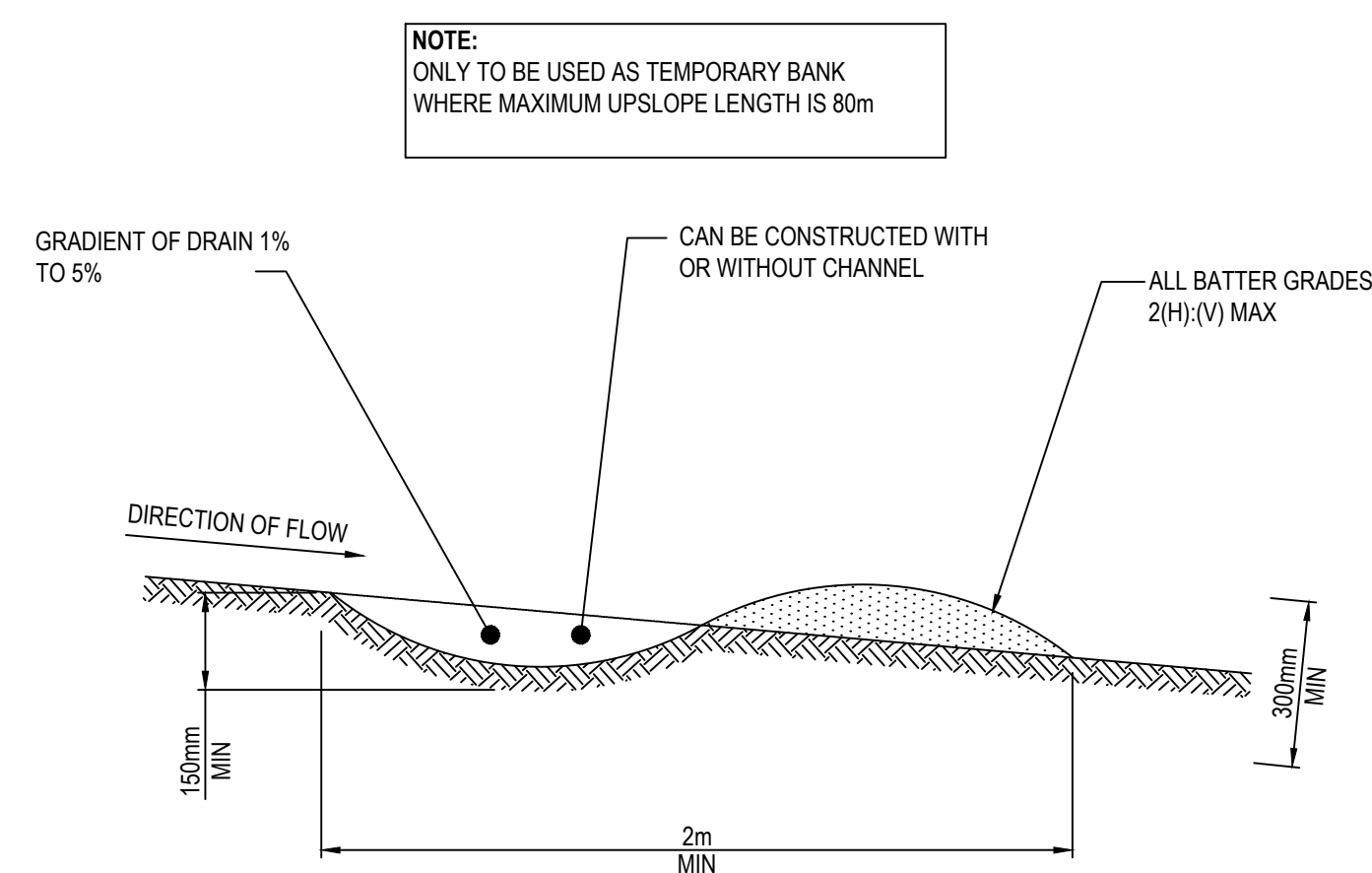
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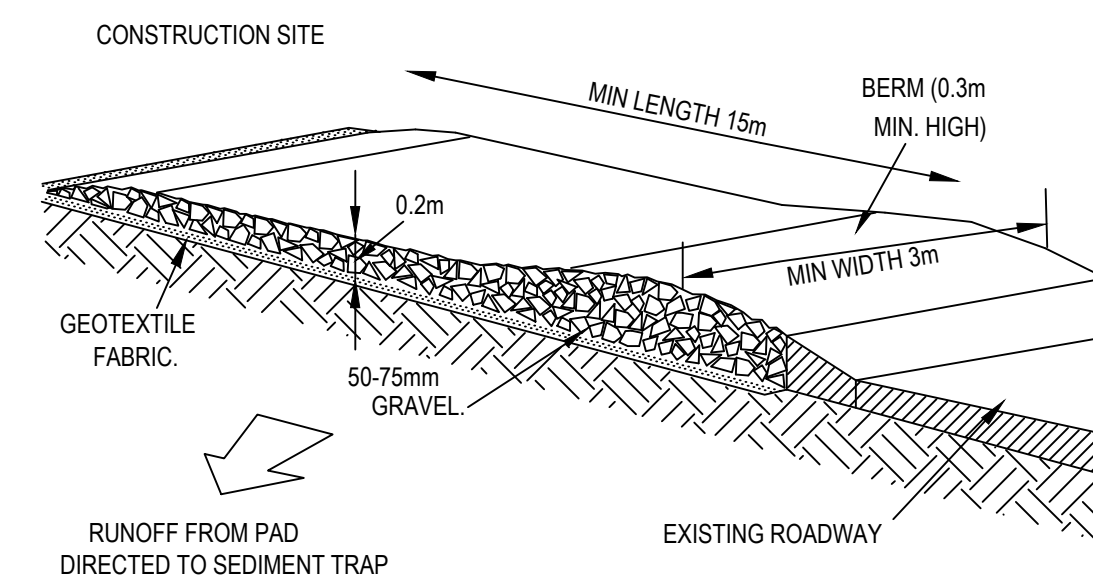
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NTS



SANDBAG SEDIMENT TRAP FOR KERB INLET ON GRADE
NTS



EARTH BANK (SD6-5)
NTS



STABILISED SITE ACCESS (SD6-14)
NTS

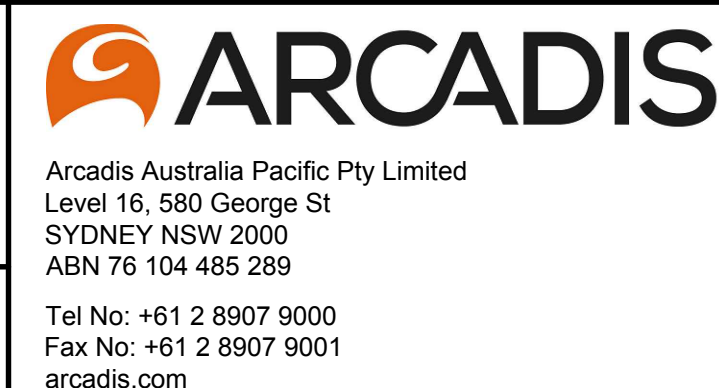
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Issue	Description	Date

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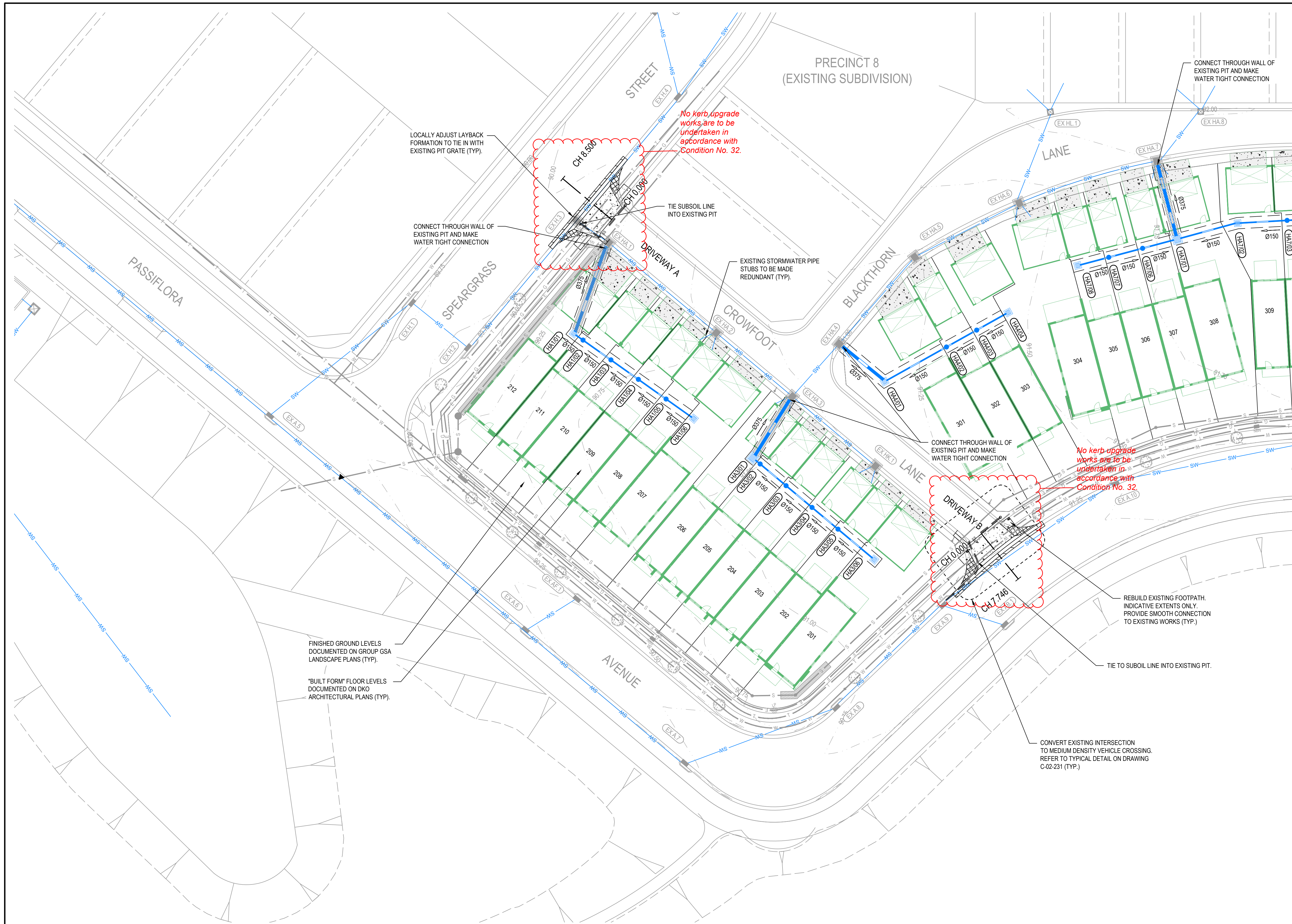


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Grid	MGA	Checked	A. KALAJZICH
Filename	C-02-106-10006946-mnd-ErosionAndSedimentControlDetails.dwg	Approved	D. SINGH

Project	WILLOWDALE MEDIUM DENSITY PRECINCT 8 LOTS 8165, 8166 & 8167	
Title	EROSION AND SEDIMENT CONTROL DETAILS	



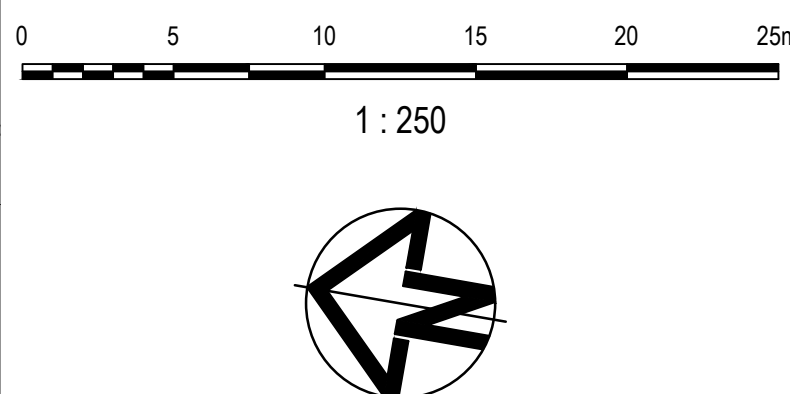
Drawing No.	Project No.	Issue
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LEGEND
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--- 90.50 --- EXISTING CONTOUR
 EXISTING TREE TO BE RETAINED
 EXISTING STORMWATER DRAINAGE PIT
 EXISTING STORMWATER PIT NUMBER
--- SW --- EXISTING STORMWATER
--- E --- EXISTING UNDERGROUND ELECTRICITY
--- T --- EXISTING TELSTRA
--- G --- EXISTING GAS
--- W --- EXISTING WATER
--- S --- EXISTING SEWER
PROPOSED
 PROPOSED ARCHITECTURAL
 K&G KERB AND GUTTER REFER CCC STANDARD DRAWING SD-R04
 ES EDGE STRIP REFER CCC STANDARD DRAWING SD-R-04
 DD DISH CROSSING REFER CCC STANDARD DRAWING SD-R-04
 SC SAWCUT
 VEHICLE CROSSING REFER CCC STANDARD DRAWING SD-R-09
 STORMWATER PIT WITH GRATE
 STORMWATER DRAINAGE PIPE
 SLOPED JUNCTION AND INSPECTION OPENING
 STORMWATER PIT NUMBER
--- CHA100 --- SUBSOIL DRAINAGE LINE
 PROPOSED CROSSING/FOOTPATH RECONSTRUCTION WORKS
 PAVEMENT TO BE REMOVED/ REPLACED WITH LANDSCAPE TURF
 SAWCUT AND REPLACE EXISTING PAVEMENT
 PROPOSED STORMWATER PIPE CONCRETE ENCASEMENT
 PROPOSED 100mm uPVC STORMWATER PROPERTY CONNECTION WITH STUB OUTLET TO ROAD KERB U.N.O.

NOTES
1. REFER DRAWING C-02-002 FOR GENERAL NOTES.
2. REFER DRAWING C-02-006 FOR PROPOSED WORKS BOUNDARY.
3. EXISTING CONTOURS SHOWN ON THIS DRAWING INDICATE SURFACE LEVELS OF THE EXISTING PRECINCT 8 SUBDIVISION WORKS ALREADY CONSTRUCTED UNDER A SEPARATE APPROVAL, REFER TO DEVELOPMENT APPLICATION NUMBER DA2433/2014.
4. DESIGN LEVELS ANTICIPATED TO BE WITHIN APPROXIMATELY ±200mm OF EXISTING LEVELS. DESIGN LEVELS TO BE CONFIRMED AT DETAILED DESIGN.
5. REFER TO DKO ARCHITECT PLANS FOR "BUILT FORM" DETAILS AND GROUP GSA PLANS FOR LANDSCAPE DETAILS.

01	ISSUE FOR APPROVAL	13/06/2018
Issue	Description	Date



Client

Stockland
it's your place

Status PRELIMINARY ONLY NOT TO BE USED FOR CONSTRUCTION	
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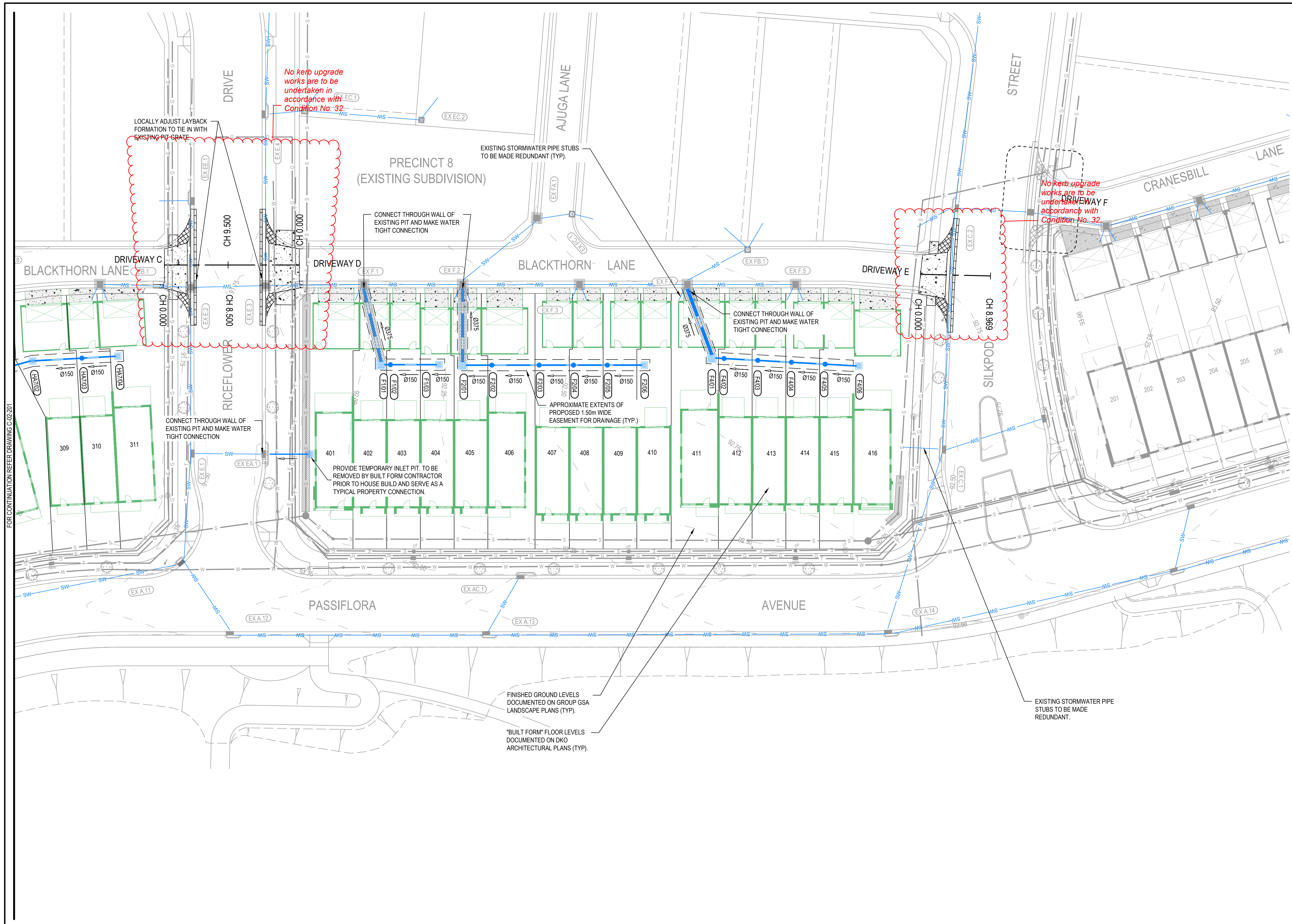
Current Issue Signatures
Drawn: J. QUIAMBAO
Designed: D. GARCIA
Checked: A. KALAJZICH
Approved: D. SINGH

Project
WILLOWDALE MEDIUM DENSITY PRECINCT 8
LOTS 8165, 8166 & 8167

Title
CIVIL WORKS AND STORMWATER DRAINAGE PLAN
SHEET 1 OF 2

Arcadis Australia Pacific Pty Limited
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Fax No: +61 2 8907 9001
arcadis.com

Drawing No. | Project No. | Issue
C-02-201 - 10006946 - 01



LEGEND

EXISTING

EXISTING CONTOUR

EXISTING TREE TO BE RETAINED

EXISTING STORMWATER DRAINAGE PIT

EXISTING STORMWATER PIT NUMBER

EXISTING STORMWATER

EXISTING UNDERGROUND ELECTRICITY

EXISTING TELSTRA

EXISTING GAS

EXISTING WATER

EXISTING SEWER

PROPOSEDPROPOSED ARCHITECTURALK&G KERB AND GUTTER
REFER CCC STANDARD DRAWING SD-R04EDGE STRIP
REFER CCC STANDARD DRAWING SD R-04DISH CROSSING
REFER CCC STANDARD DRAWING SD R-04SAWCUTVEHICLE CROSSING
REFER CCC STANDARD DRAWING SD R-09STORMWATER PIT WITH GRATESTORMWATER DRAINAGE PIPESLOPED JUNCTION AND INSPECTION OPENINGSTORMWATER PIT NUMBERSUBSOIL DRAINAGE LINEPROPOSED CROSSING/FOOTPATH RECONSTRUCTION WORKSPAVEMENT TO BE REMOVED/
REPLACED WITH LANDSCAPE TURFSAWCUT AND REPLACE
EXISTING PAVEMENTPROPOSED STORMWATER PIPE
CONCRETE ENCASEMENTPROPOSED 100 uPVC STORMWATER
PROPERTY CONNECTION WITH STUB
OUTLET TO ROAD KERB U.N.O.**NOTES**

1. REFER DRAWING C-02-002 FOR GENERAL NOTES.

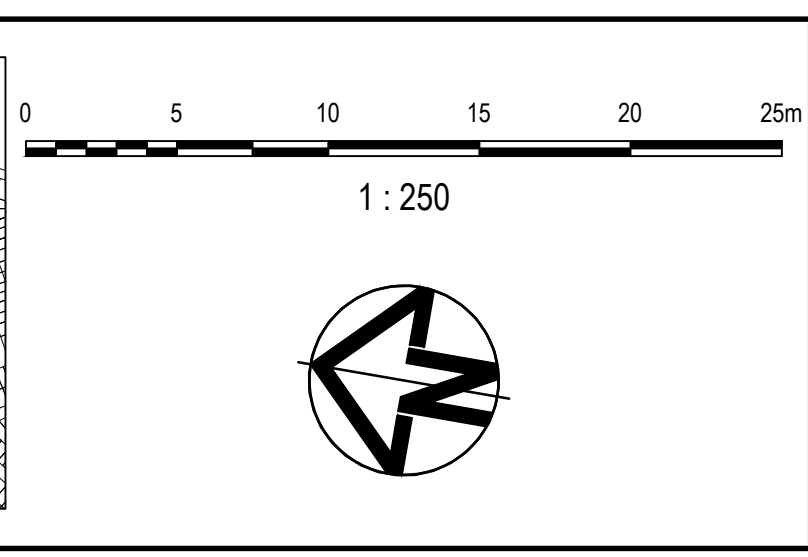
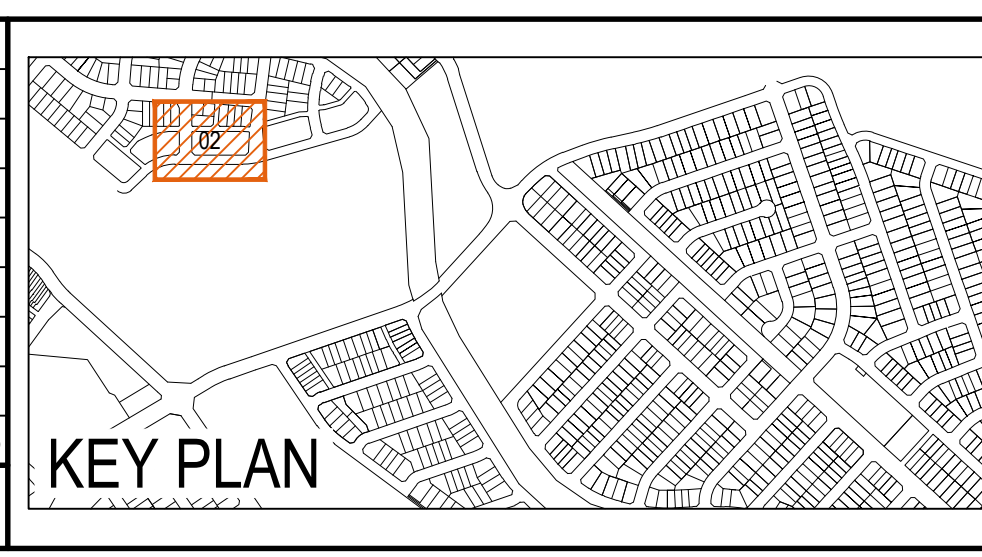
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3. EXISTING CONTOURS SHOWN ON THIS DRAWING INDICATE SURFACE LEVELS OF THE EXISTING PRECINCT 8 SUBDIVISION WORKS ALREADY CONSTRUCTED UNDER A SEPARATE APPROVAL. REFER TO DEVELOPMENT APPLICATION NUMBER DA2433/2014.

4. DESIGN LEVELS ANTICIPATED TO BE WITHIN APPROXIMATELY ±200mm OF EXISTING LEVELS. DESIGN LEVELS TO BE CONFIRMED AT DETAILED DESIGN.

5. REFER TO DKO ARCHITECT PLANS FOR "BUILT FORM" DETAILS AND GROUP GSA PLANS FOR LANDSCAPE DETAILS.

01	ISSUE FOR APPROVAL	13/06/2018
Issue	Description	Date



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Grid	MGA	Checked A. KALAJZICH
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Project

WILLOWDALE
MEDIUM DENSITY
PRECINCT 8
LOTS 8165, 8166 & 8167

Title

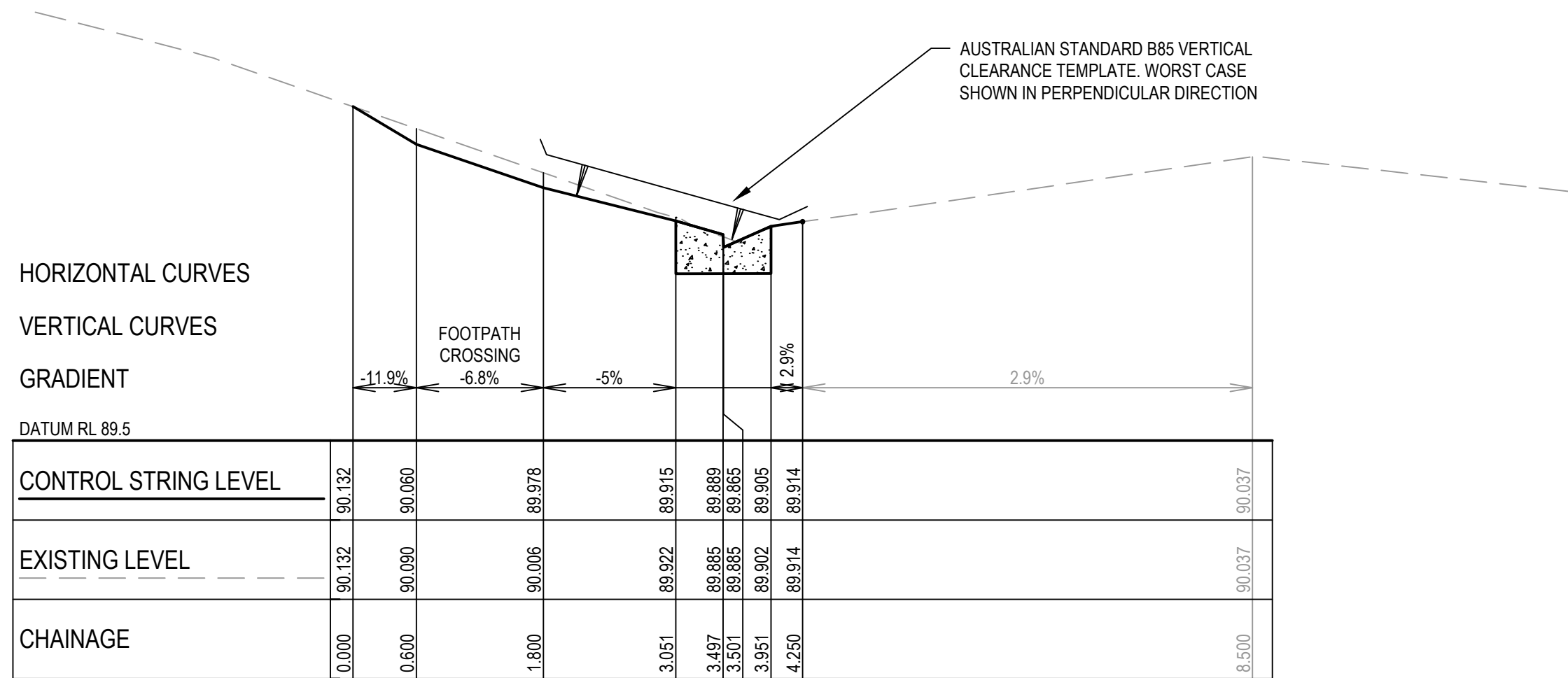
CIVIL WORKS AND
STORMWATER DRAINAGE PLAN
SHEET 2 OF 2

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SYDNEY NSW 2000
ABN 76 104 485 289
Tel No: +61 2 8907 9000
Fax No: +61 2 8907 9001
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Drawing No. C-02-020

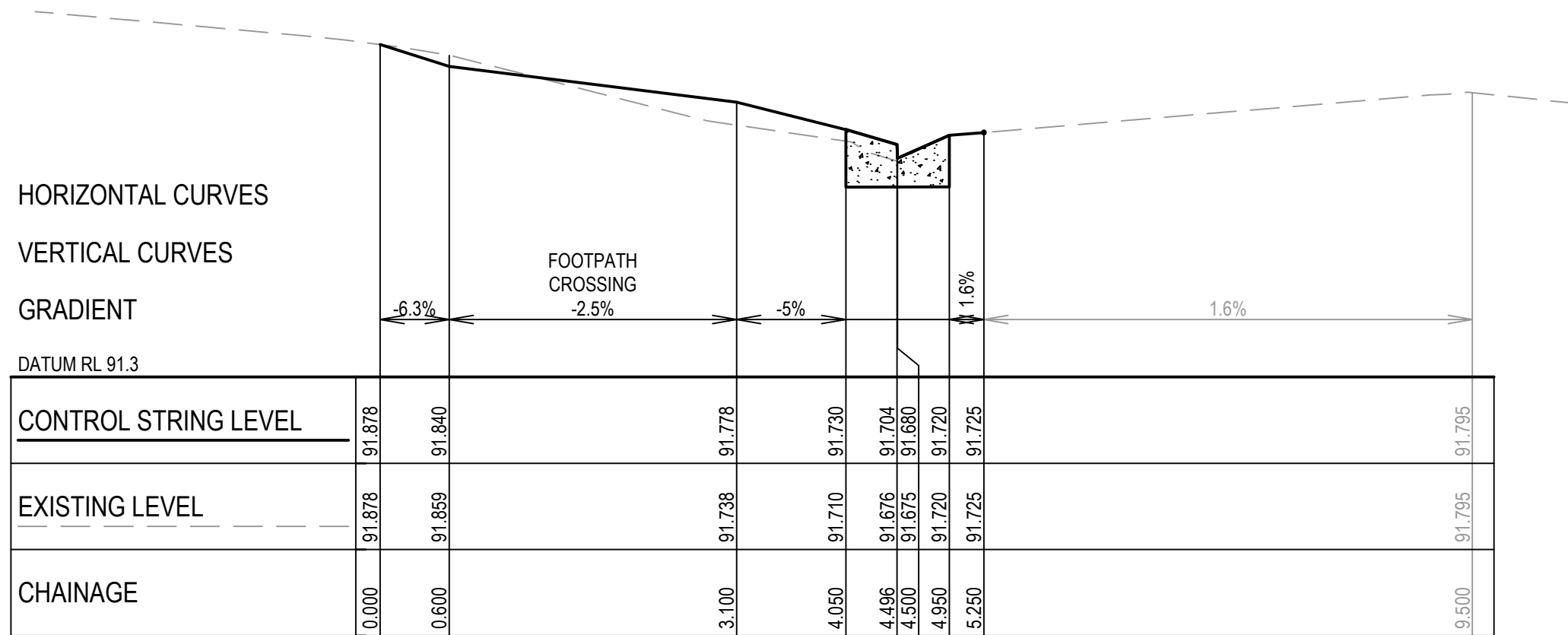
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Issue 01



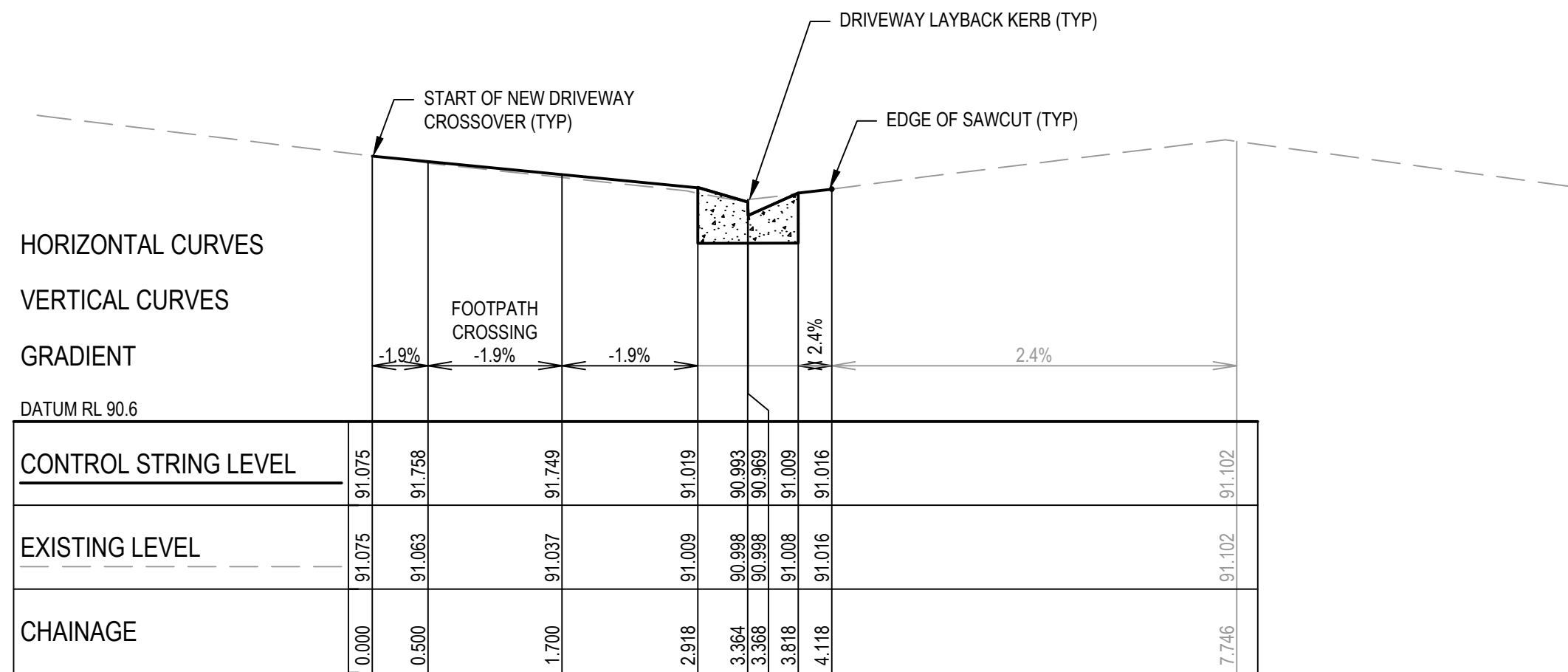
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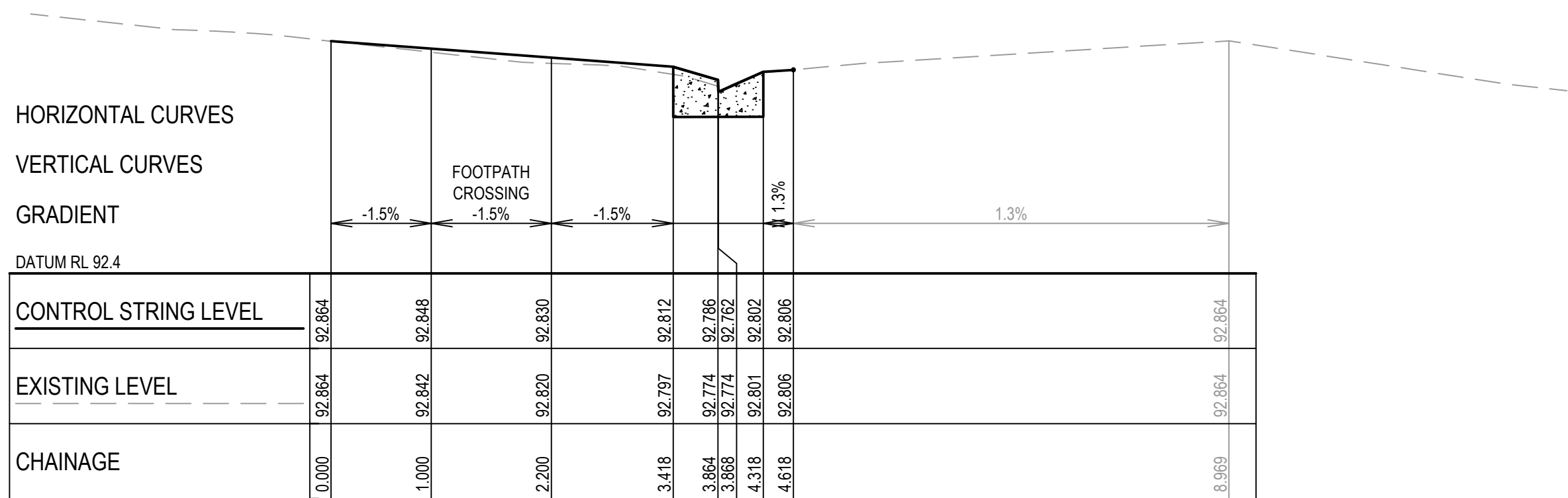
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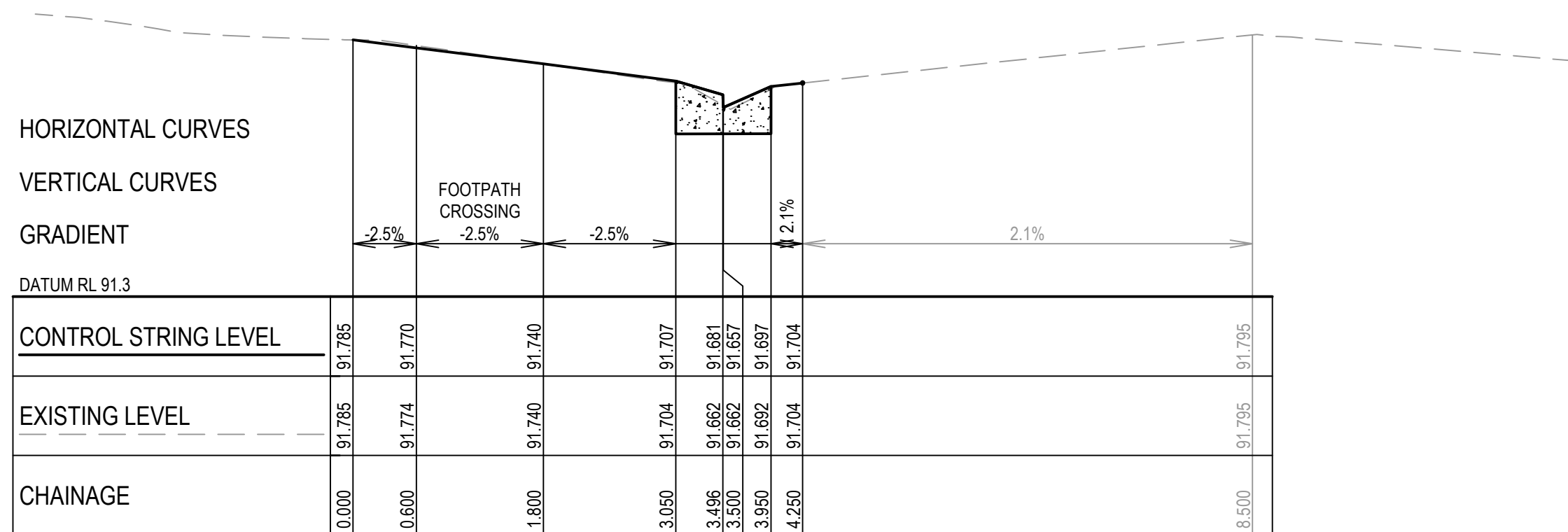
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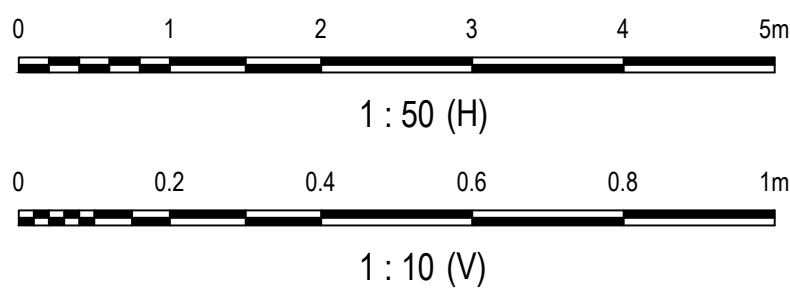
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DRIVEWAY C LONGITUDINAL SECTION

SCALE: HORIZONTAL - 1:50
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01	ISSUE FOR APPROVAL	13/06/2018
Issue	Description	Date



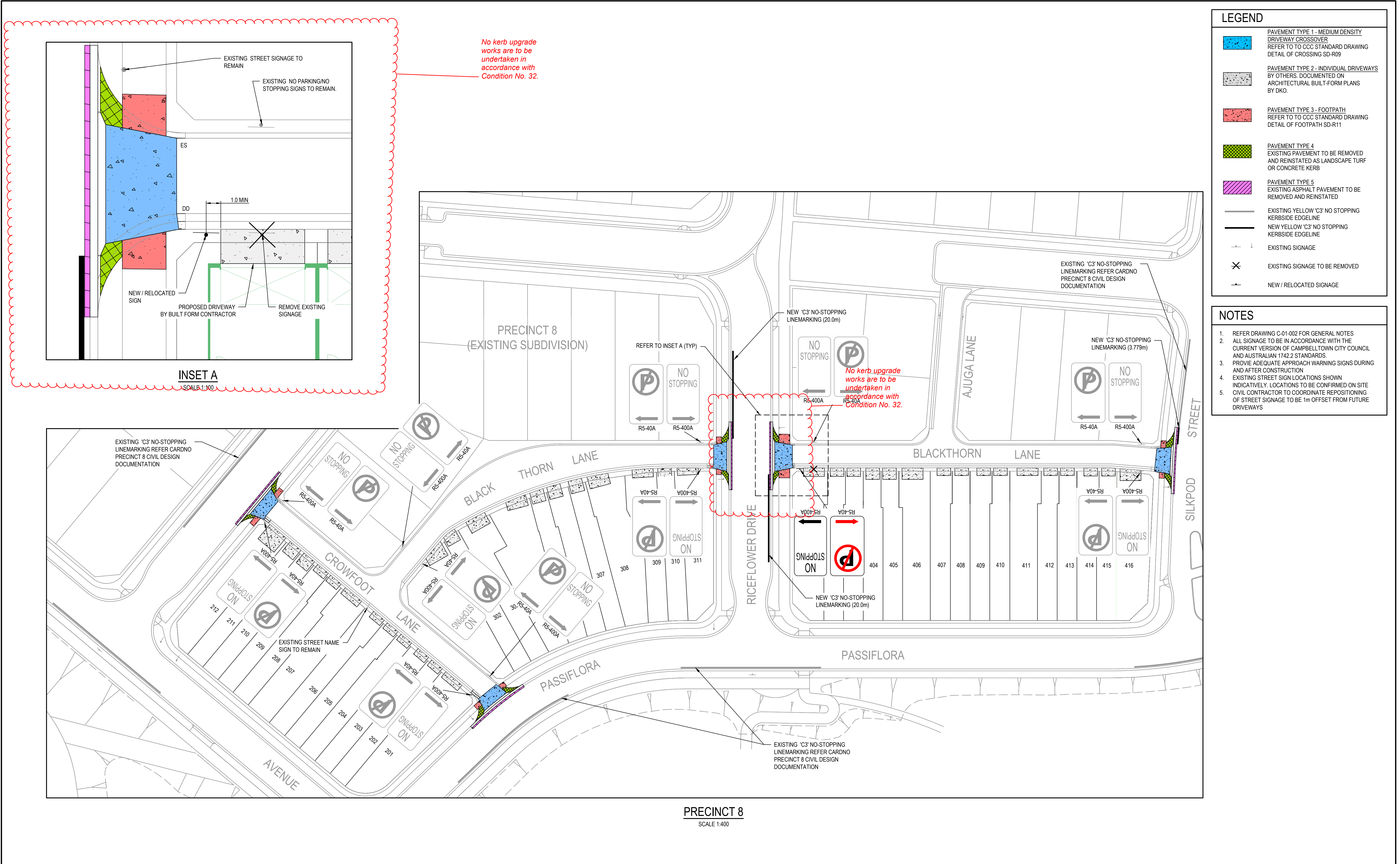
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Original Size	A1	Designed J. DE LEON
Height Datum	AHD	Checked A. KALAJZICH
Grid	MGA	Approved D. SINGH
Filename:	C-02-211-10006946-mnd-DrivewayLongSec.dwg	

Project	WILLOWDALE MEDIUM DENSITY PRECINCT 8 LOTS 8165, 8166 & 8167	
Title	DRIVEWAY LONGITUDINAL SECTION	

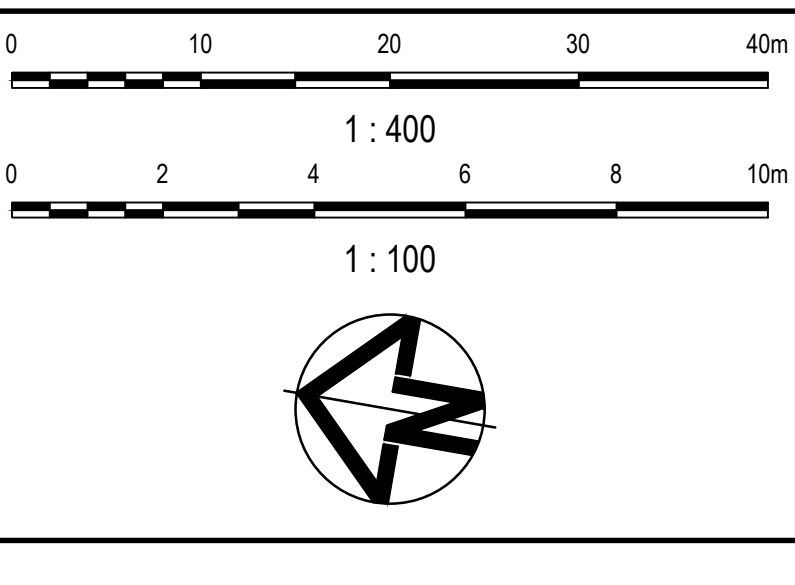
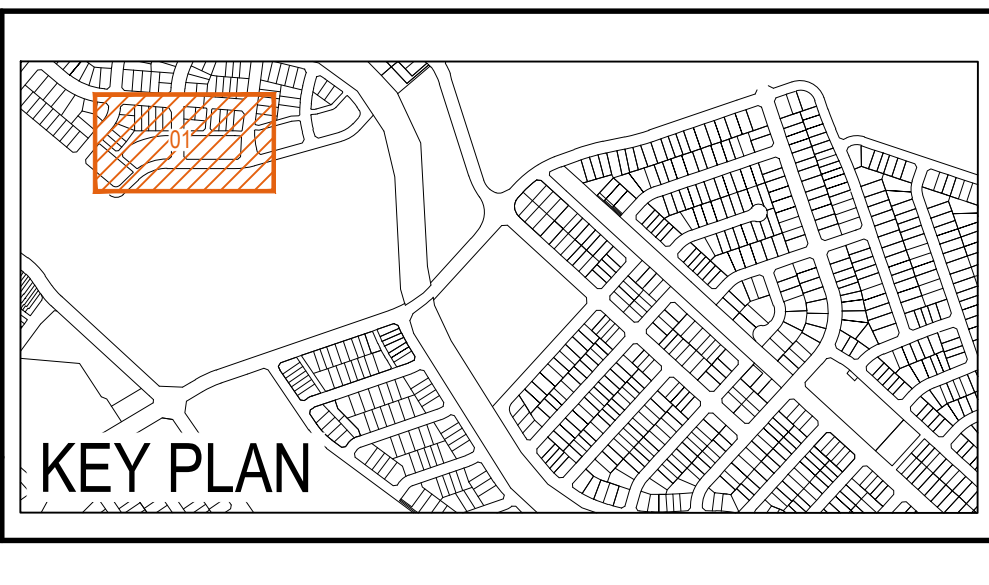
ARCADIS

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Drawing No.	Project No.	Issue
C-02-211	10006946	01



01	ISSUE FOR APPROVAL	13/06/2018
Issue	Description	Date



Client

Status	PRELIMINARY ONLY NOT TO BE USED FOR CONSTRUCTION	
Scales	AS SHOWN	Current Issue Signatures
		Drawn J. QUIAMBAO
Original Size	A1	Designed J. DE LEON
Height Datum	AHD	Checked A. KALAJZICH
Grid	MGA	Approved D. SINGH
Filename: C:\02-221-10006946-mnd-Pavement\Signage\LinemarkingPlan.dwg		

Project

WILLOWDALE
MEDIUM DENSITY
PRECINCT 8
LOTS 8165, 8166 & 8167

Title

PAVEMENT, SIGNAGE AND
LINEMARKING PLAN

Arcadis Australia Pacific Pty Limited
Level 16, 580 George St
SYDNEY NSW 2000
ABN 76 104 485 289
Tel No: +61 2 8907 9000
Fax No: +61 2 8907 9001
arcadis.com

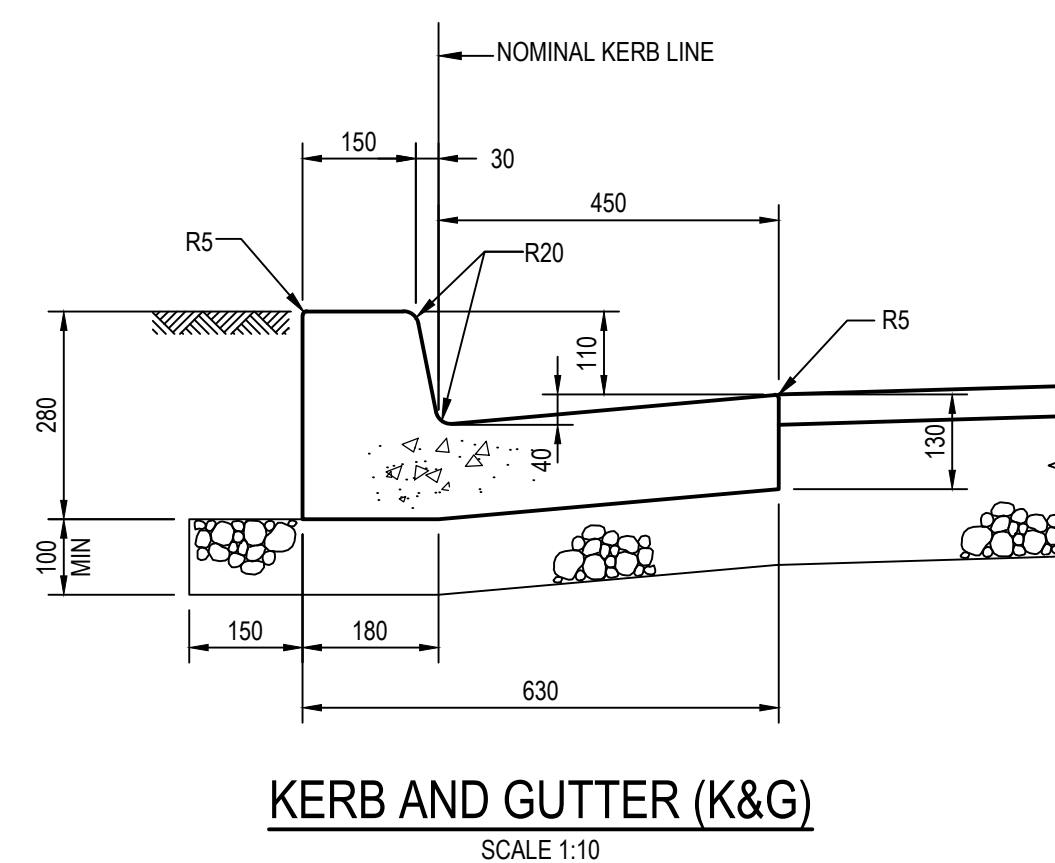
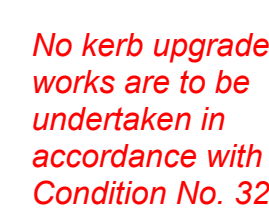
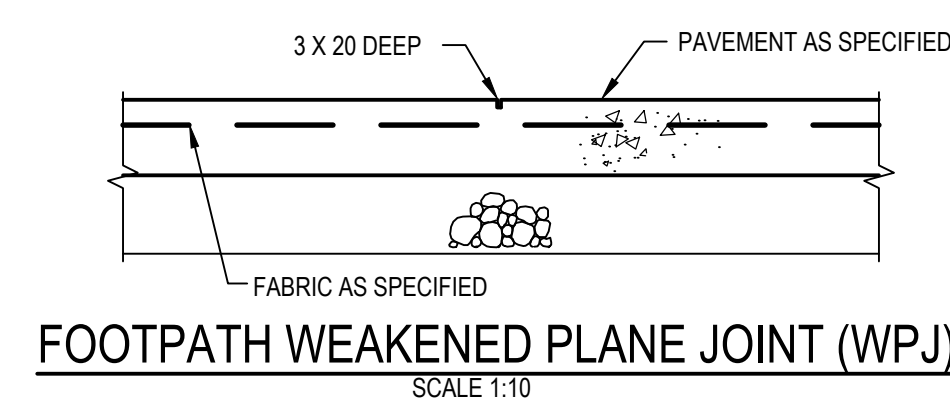
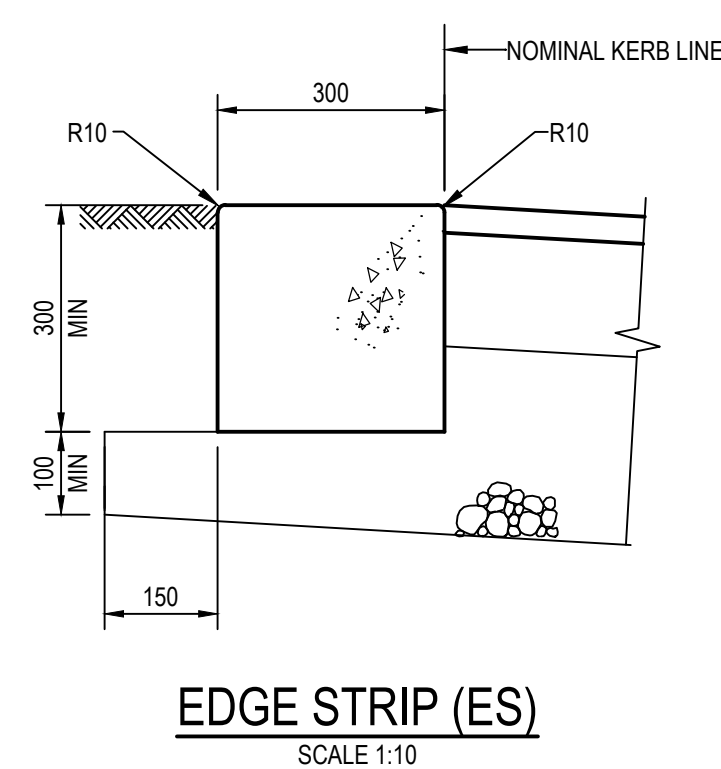
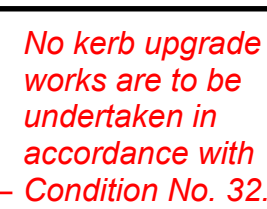
Drawing No.	Project No.	Issue
C-02-221	10006946	01

LEGEND

- PAVEMENT TYPE 1 - MEDIUM DENSITY DRIVEWAY CROSSOVER
REFER TO CCC STANDARD DRAWING DETAIL OF CROSSING SD-R09
- PAVEMENT TYPE 2 - INDIVIDUAL DRIVEWAYS BY OTHERS, DOCUMENTED ON ARCHITECTURAL BUILT-FORM PLANS BY DKO.
- PAVEMENT TYPE 3 - FOOTPATH
REFER TO CCC STANDARD DRAWING DETAIL OF FOOTPATH SD-R11
- PAVEMENT TYPE 4
EXISTING PAVEMENT TO BE REMOVED AND REINSTATED AS LANDSCAPE TURF OR CONCRETE KERB
- PAVEMENT TYPE 5
EXISTING ASPHALT PAVEMENT TO BE REMOVED AND REINSTATED
- EXISTING YELLOW 'C3' NO STOPPING KERBSIDE EDGELINE
- NEW YELLOW 'C3' NO STOPPING KERBSIDE EDGELINE
- EXISTING SIGNAGE
- EXISTING SIGNAGE TO BE REMOVED
- NEW / RELOCATED SIGNAGE

NOTES

- REFER DRAWING C-01-002 FOR GENERAL NOTES
- ALL SIGNAGE TO BE IN ACCORDANCE WITH THE CURRENT VERSION OF CAMPBELLTOWN CITY COUNCIL AND AUSTRALIAN 1742.2 STANDARDS.
- PROVIDE ADEQUATE APPROACH WARNING SIGNS DURING AND AFTER CONSTRUCTION
- EXISTING STREET SIGN LOCATIONS SHOWN INDICATIVELY. LOCATIONS TO BE CONFIRMED ON SITE
- CIVIL CONTRACTOR TO COORDINATE REPOSITIONING OF STREET SIGNAGE TO BE 1m OFFSET FROM FUTURE DRIVEWAYS

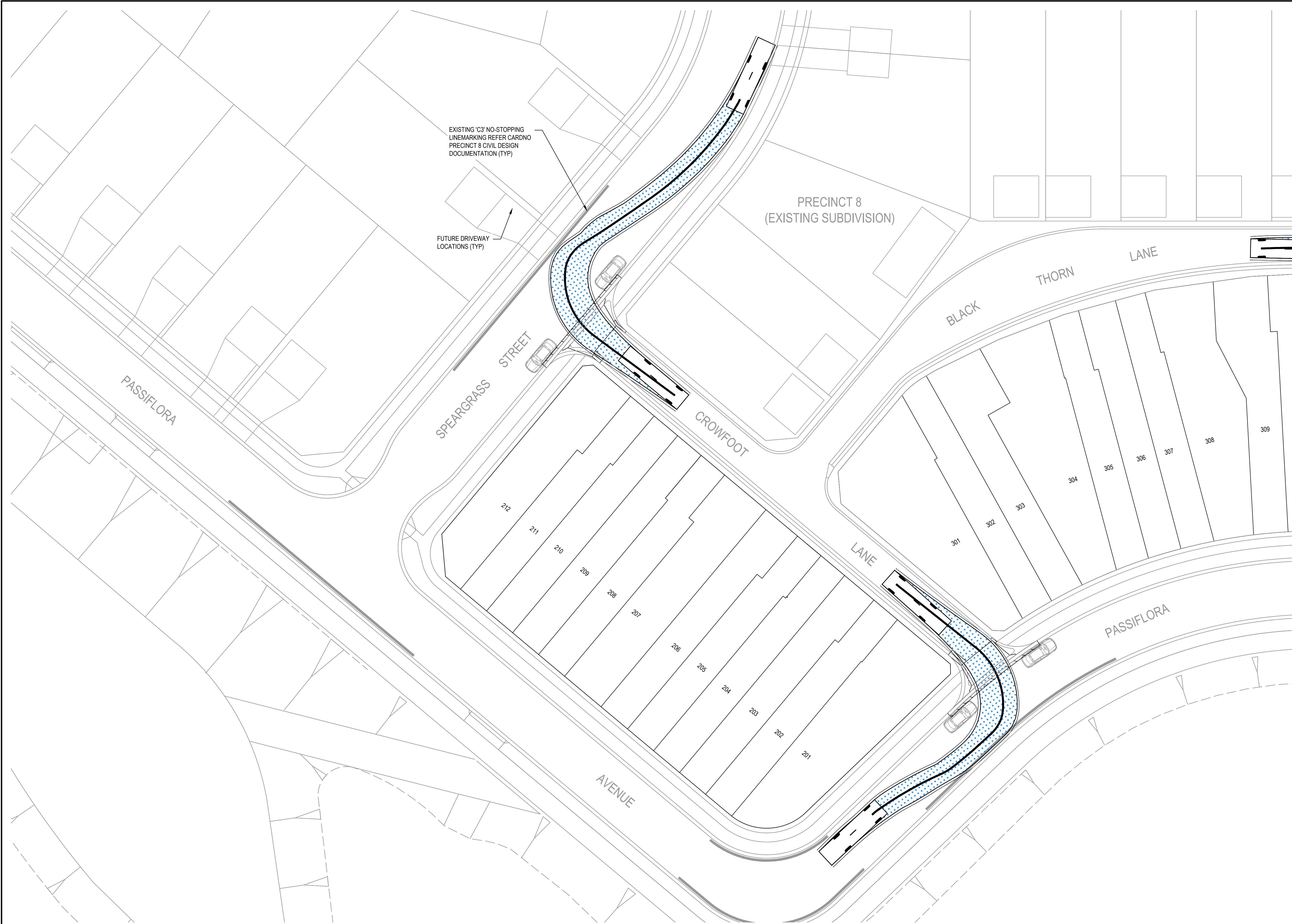


Status			
<h1>PRELIMINARY ONLY</h1> <h2>NOT TO BE USED FOR CONSTRUCTION</h2>			
Scales		Current Issue Signatures	
	AS SHOWN	Drawn J. QUIAMBAO	
Original Size	A1	Designed J. DE LEON	
Height Datum	AHD	Checked A. KALAJZICH	
Grid	MGA	Approved D. SINGH	
Filename: C-02-231-1000646-mnd-CivilWorksDetails.dwg			

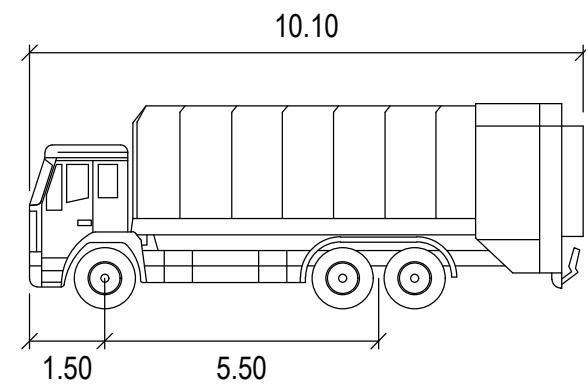
Project	WILLOWDALE MEDIUM DENSITY PRECINCT 8 LOTS 8165, 8166 & 8167
Title	CIVIL WORKS DETAILS



Drawing No.	Project No.	Issue
C-02-231	10006946	01



LEGEND

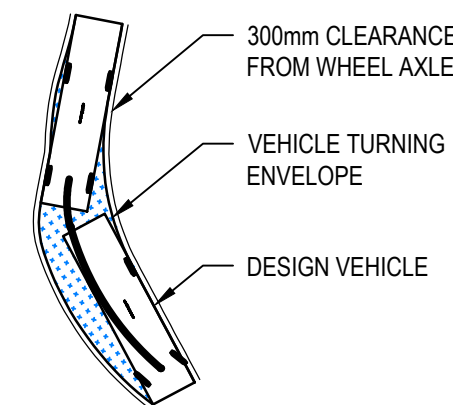


10.10m Collex Garbage Truck

Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 35.40

AUTOTURN MOVEMENT ASSUMPTIONS:

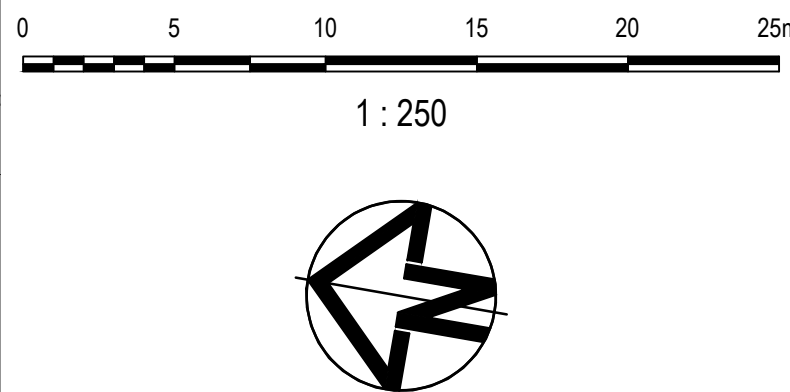
- 5km/h MINIMUM SPEED.
- A 300mm CLEARANCE. BOTH SIDES HAS BEEN APPLIED IN ACCORDANCE WITH AS2890.1
- VEHICLES HAVE NOT TURNED STEERING WHEEL WHILE STATIONARY (OTHER THAN FOR 3 POINT TURN MOVEMENT)



TURNING MOVEMENT DETAILS

FOR CONTINUATION REFER DRAWING C-02-302

01	ISSUE FOR APPROVAL	13/06/2018
Issue	Description	Date



Client




Status	PRELIMINARY ONLY NOT TO BE USED FOR CONSTRUCTION	
Scales	1 : 250	Current Issue Signatures
		Drawn J.QUIAMBAO
Original Size	A1	Designed J. DE LEON
Height Datum	AHD	Checked A. KALAJZICH
Grid	MGA	Approved D. SINGH
Filename: C-02-301-10006946-mnd-TurningPathPlanSheet1.dwg		

Project

WILLOWDALE
MEDIUM DENSITY
PRECINCT 8
LOTS 8165, 8166 & 8167

Title

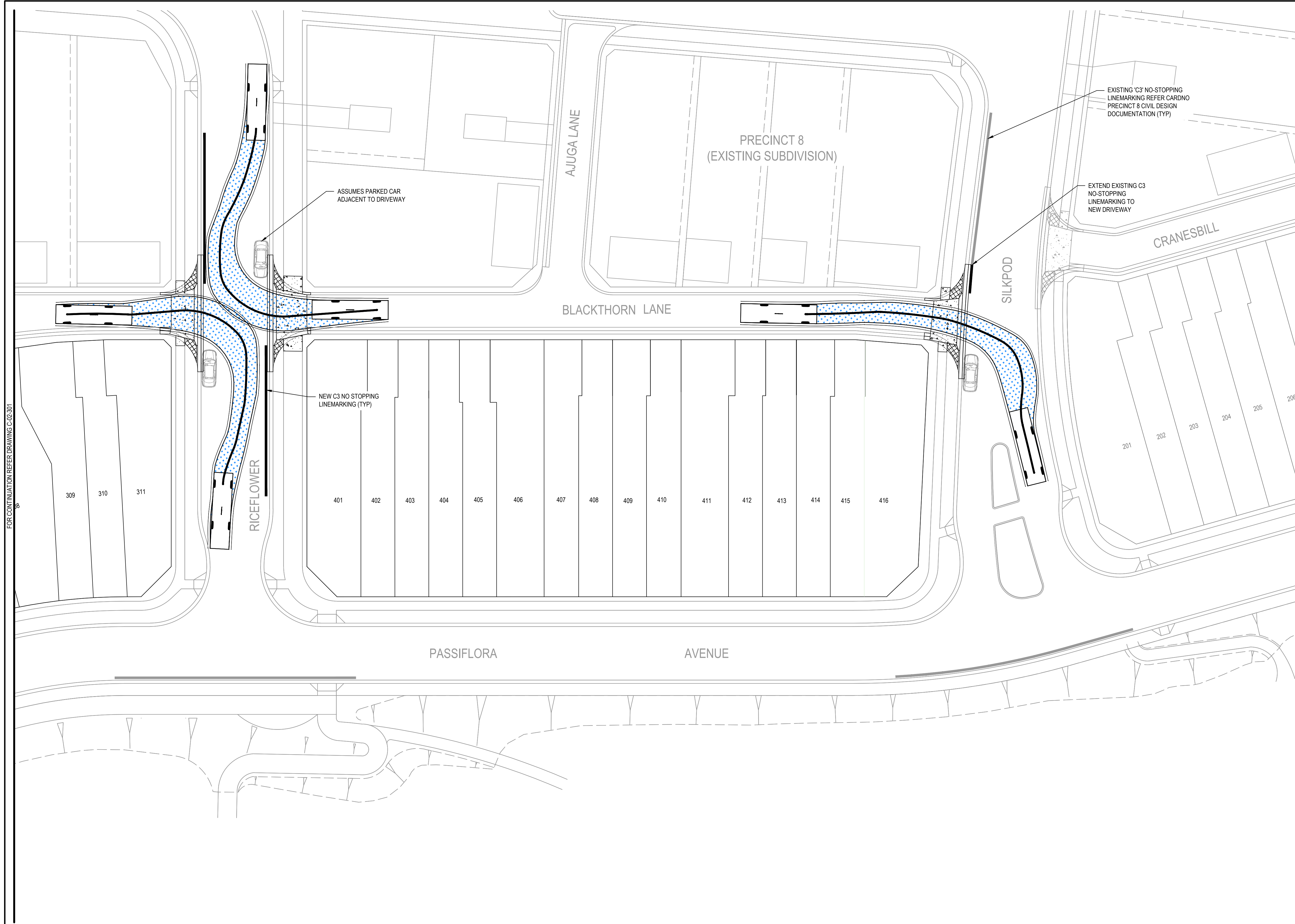
TURNING MOVEMENT PATH PLAN
SHEET 1 OF 2



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Drawing No.	Project No.	Issue
C-02-301	10006946	01

FOR CONTINUATION REFER DRAWING C-02-301

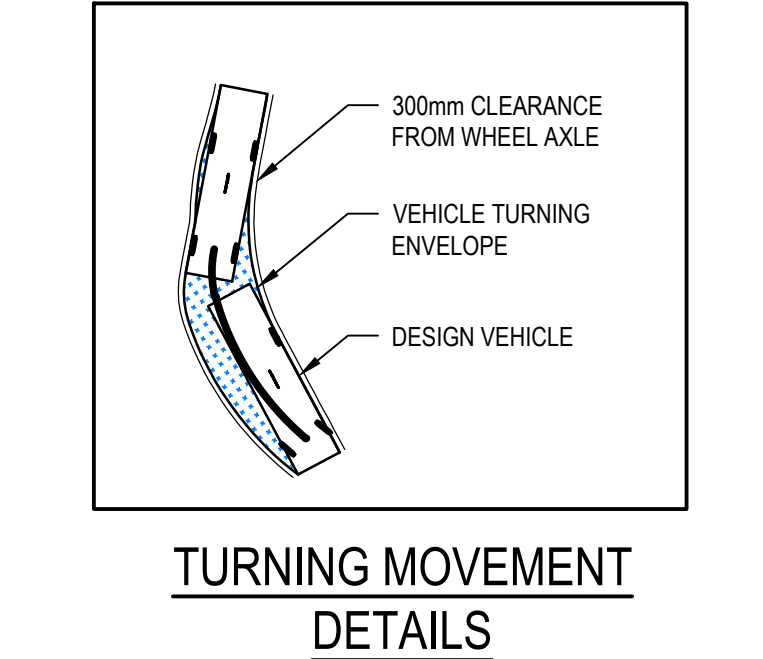


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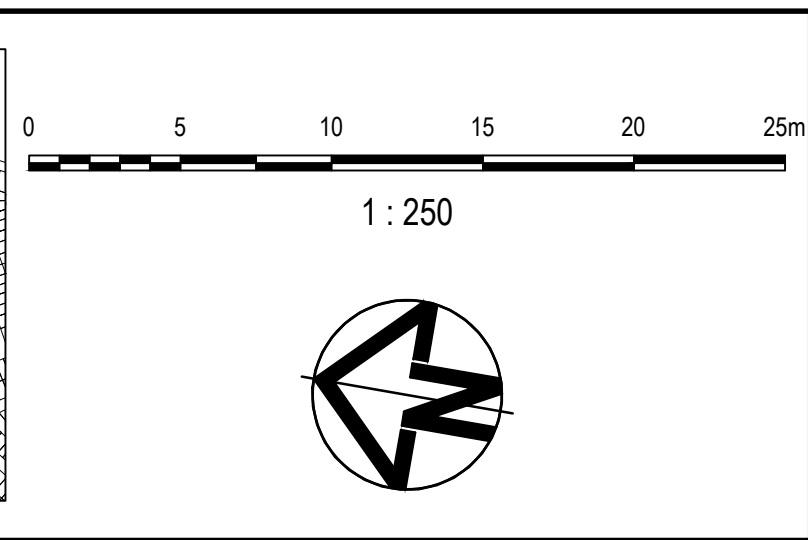
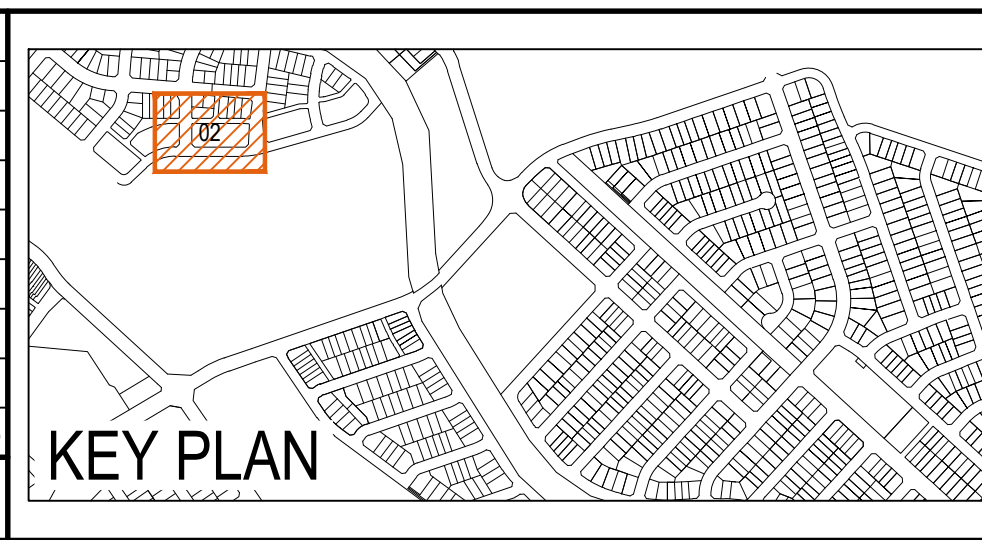
10.10m Collex Garbage Truck

Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 35.40

- AUTOTURN MOVEMENT ASSUMPTIONS:**
- 5km/h MINIMUM SPEED.
 - A 300mm CLEARANCE. BOTH SIDES HAS BEEN APPLIED IN ACCORDANCE WITH AS2890.1
 - VEHICLES HAVE NOT TURNED STEERING WHEEL WHILE STATIONARY (OTHER THAN FOR 3 POINT TURN MOVEMENT)



01	ISSUE FOR APPROVAL	13/06/2018
Issue	Description	Date



Client

Status PRELIMINARY ONLY NOT TO BE USED FOR CONSTRUCTION	
Scales	1 : 250
Original Size	A1
Height Datum	AHD
Grid	MGA
Filename: C-02-302-10006946-mnd-TurningPathPlanSheet2.dwg	

Current Issue Signatures	
Drawn J. QUIAMBAO	
Designed J. DE LEON	
Checked A. KALAJZICH	
Approved D. SINGH	

Project

**WILLOWDALE
MEDIUM DENSITY
PRECINCT 8
LOTS 8165, 8166 & 8167**

Title

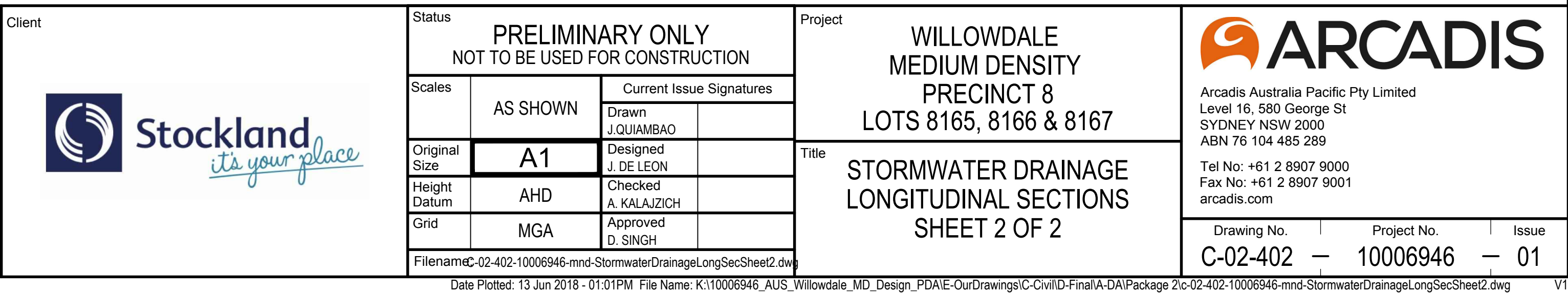
**TURNING MOVEMENT PATH PLAN
SHEET 2 OF 2**

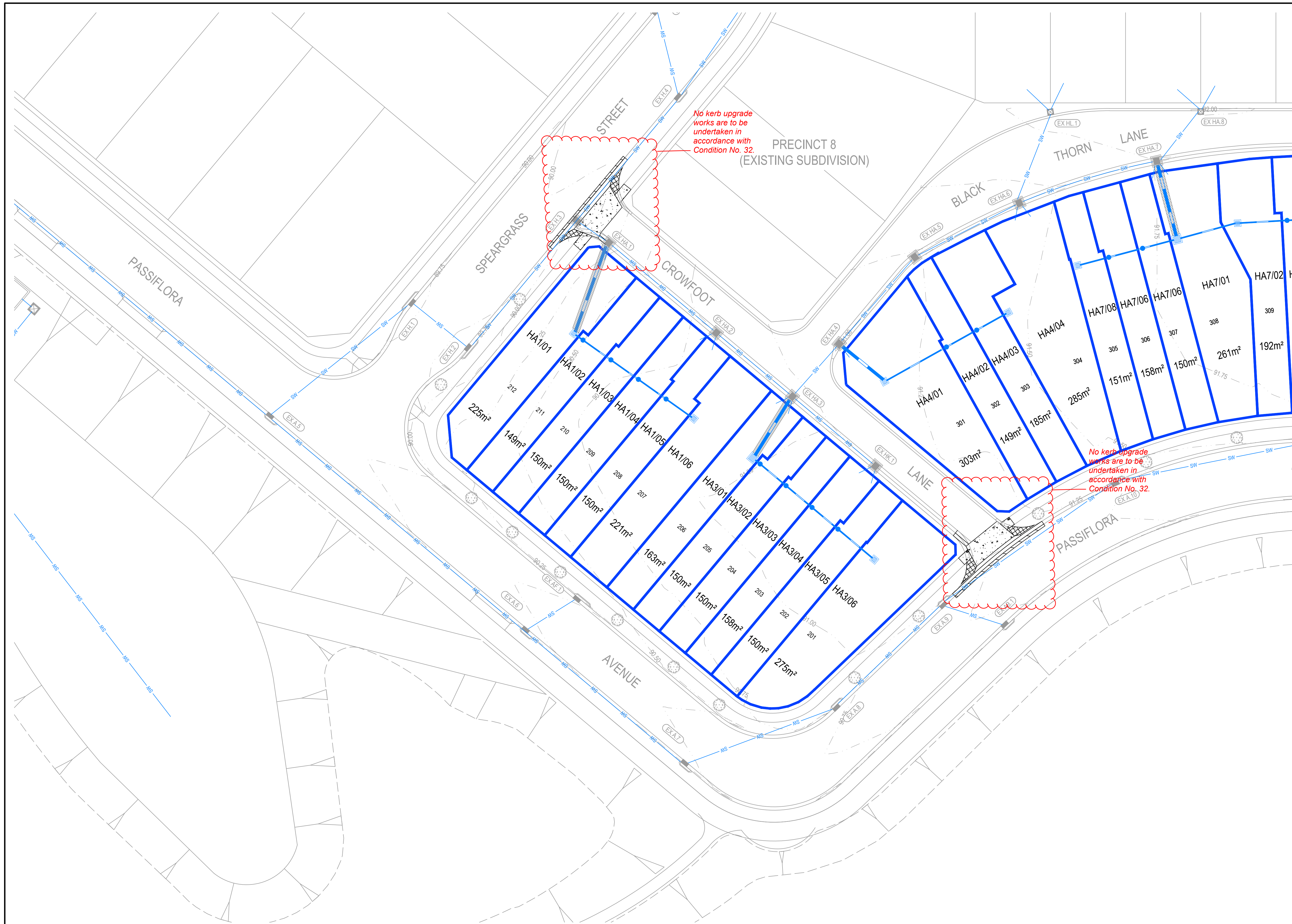
Arcadis Australia Pacific Pty Limited
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arcadis.com

Drawing No.	Project No.	Issue
C-02-302	10006946	01



01	ISSUE FOR APPROVAL	13/06/2018
Issue	Description	Date





LEGEND

EXISTING CONTOUR

EXISTING STORMWATER DRAINAGE PIT

EXISTING STORMWATER PIT NUMBER

EXISTING STORMWATER PIPE

SLOPED JUNCTION AND INSPECTION OPENING

STORMWATER PIT WITH GRATE

STORMWATER DRAINAGE PIPE

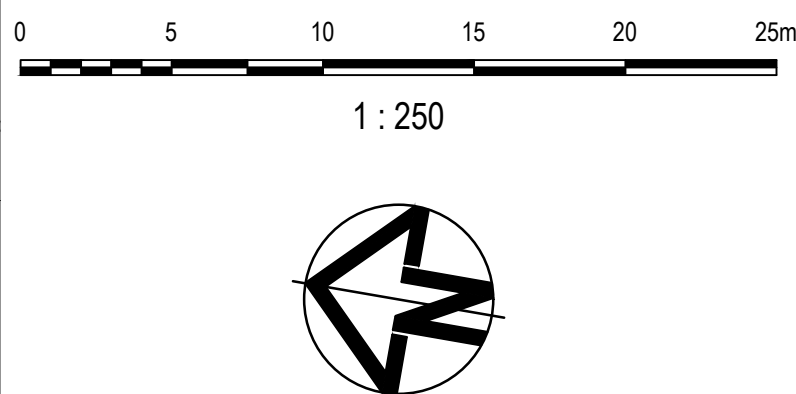
DRAINAGE CATCHMENT BOUNDARY

PROPOSED STORMWATER PIPE CONCRETE ENCASEMENT

PROPOSED 0100 uPVC STORMWATER PROPERTY CONNECTION WITH STUB OUTLET TO ROAD KERB U.N.O.

FOR CONTINUATION REFER DRAWINGS C-02-412

01	ISSUE FOR APPROVAL	13/06/2018
Issue	Description	Date



Client

Status	PRELIMINARY ONLY NOT TO BE USED FOR CONSTRUCTION	
Scales	1 : 250	Current Issue Signatures
		Drawn J. QUIAMBAO
Original Size	A1	Designed J. DE LEON
Height Datum	AHD	Checked A. KALAJZICH
Grid	MGA	Approved D. SINGH
Filename: C-02-411-10006946-mnd-StormwaterDrainageCatchmentPlanSheet1.dwg		

Project

WILLOWDALE
MEDIUM DENSITY
PRECINCT 8
LOTS 8165, 8166 & 8167

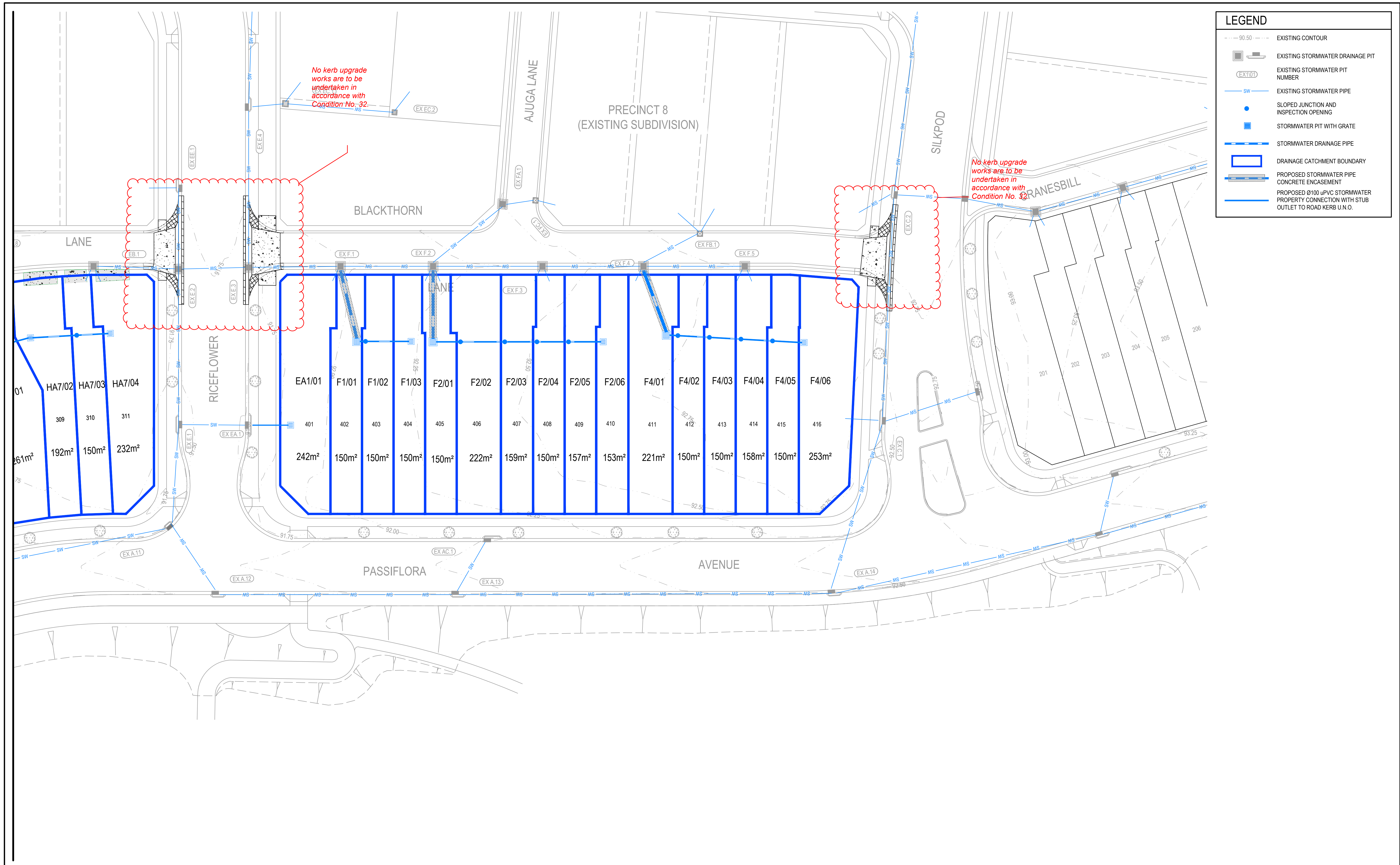
Title

STORMWATER DRAINAGE
CATCHMENT PLAN
SHEET 1 OF 2

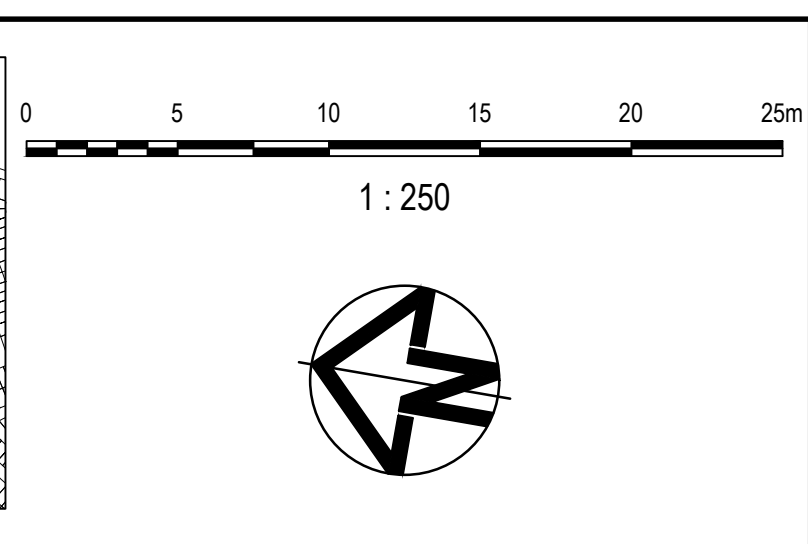
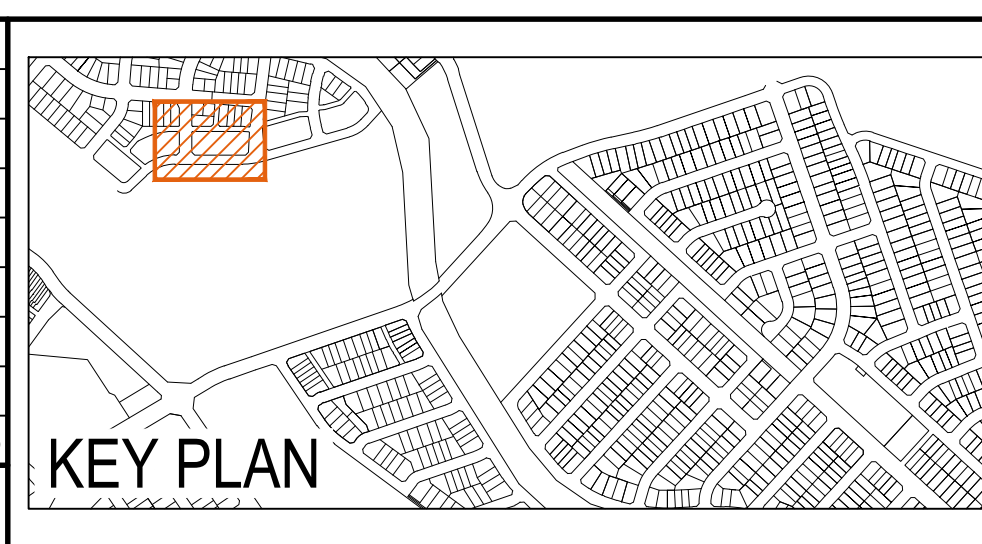
Arcadis Australia Pacific Pty Limited
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ABN 76 104 485 289
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arcadis.com

Drawing No. | Project No. | Issue

C-02-411 | 10006946 | 01



01	ISSUE FOR APPROVAL	13/06/2018
Issue	Description	Date

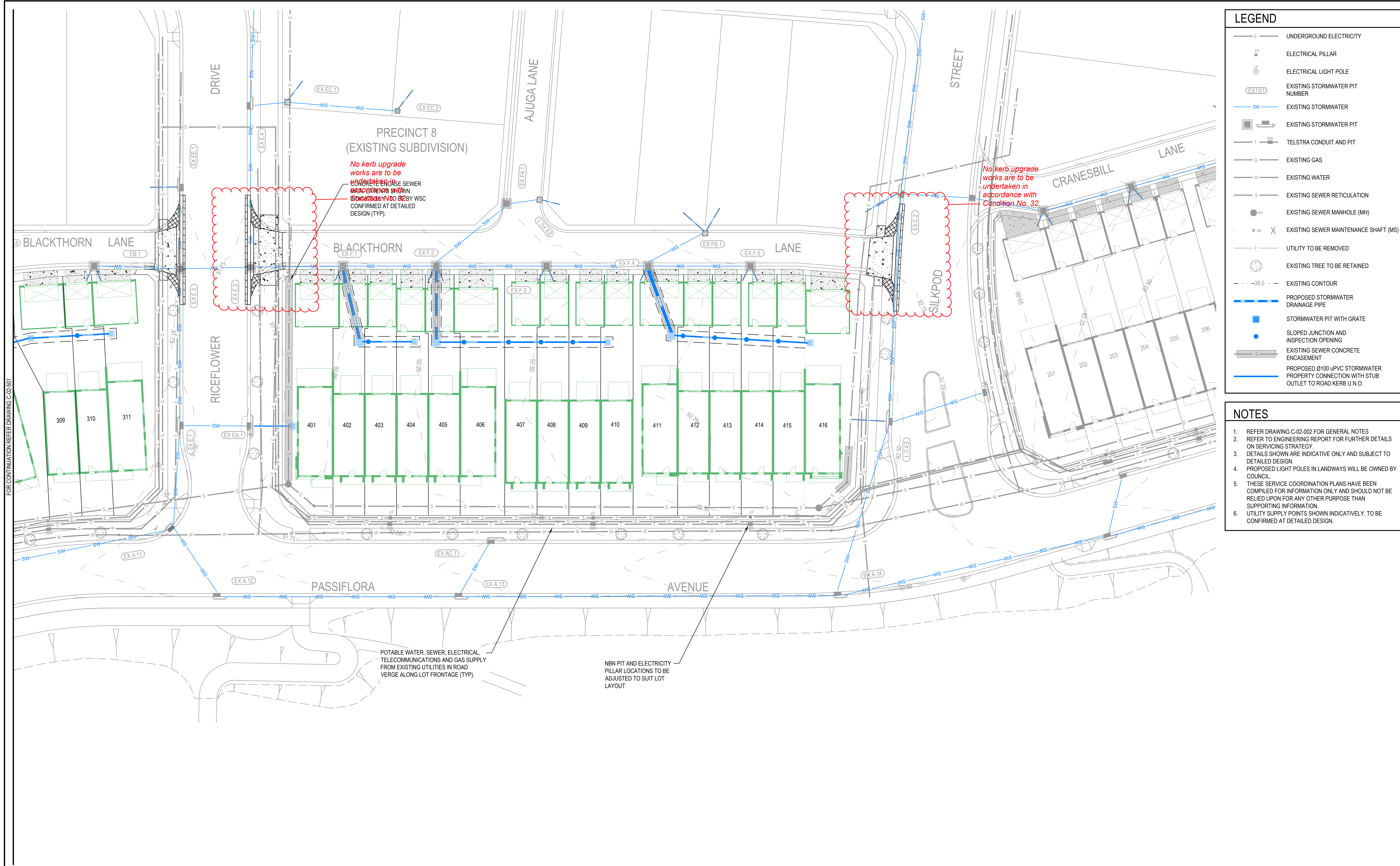


Status	PRELIMINARY ONLY NOT TO BE USED FOR CONSTRUCTION	
Scales	1 : 250	Current Issue Signatures
		Drawn J. QUIAMBAO
Original Size	A1	Designed J. DE LEON
Height Datum	AHD	Checked A. KALAJZICH
Grid	MGA	Approved D. SINGH

Project	WILLOWDALE MEDIUM DENSITY PRECINCT 8 LOTS 8165, 8166 & 8167
Title	STORMWATER DRAINAGE CATCHMENT PLAN SHEET 2 OF 2

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Fax No: +61 2 8907 9001
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Drawing No.	Project No.	Issue
C-02-412	10006946	01



LEGEND

E

UNDERGROUND ELECTRICITY

EP

ELECTRICAL PILLAR

LP

ELECTRICAL LIGHT POLE

EX1001

EXISTING STORMWATER PIT NUMBER

SW

EXISTING STORMWATER

EXISTING STORMWATER PIT

T

TELSTRA CONDUIT AND PIT

G

EXISTING GAS

W

EXISTING WATER

S

EXISTING SEWER RETICULATION

HH

EXISTING SEWER MANHOLE (MH)

MS

EXISTING SEWER MAINTENANCE SHAFT (MS)

?

UTILITY TO BE REMOVED

EXISTING TREE TO BE RETAINED

- - -38.5- - -

EXISTING CONTOUR

PROPOSED STORMWATER DRAINAGE PIPE

STORMWATER PIT WITH GRATE

SLOPED JUNCTION AND INSPECTION OPENING

EXISTING SEWER CONCRETE ENCASUREMENT

PROPOSED Ø100 uPVC STORMWATER PROPERTY CONNECTION WITH STUB OUTLET TO ROAD KERB U.N.O.

- NOTES**
1. REFER DRAWING C-02-002 FOR GENERAL NOTES

2. REFER TO ENGINEERING REPORT FOR FURTHER DETAILS ON SERVICING STRATEGY.

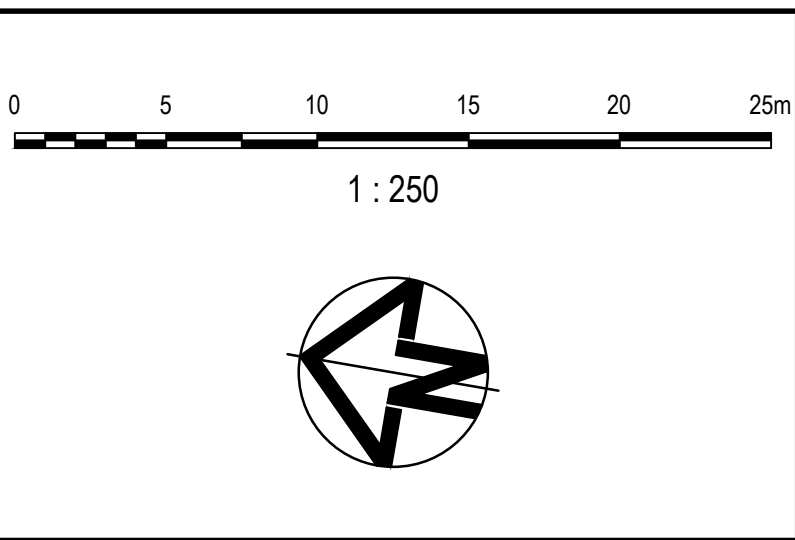
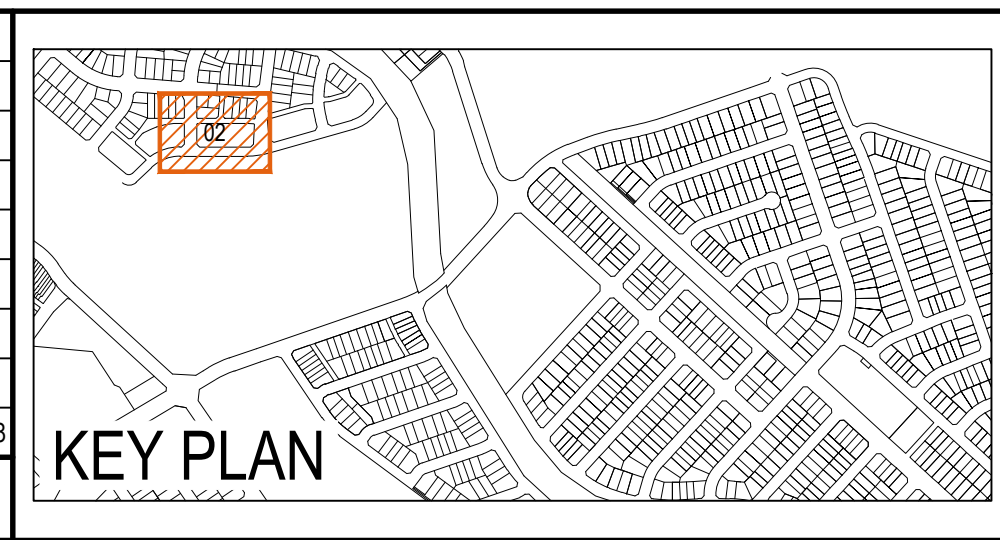
3. DETAILS SHOWN ARE INDICATIVE ONLY AND SUBJECT TO DETAILED DESIGN.

4. PROPOSED LIGHT POLES IN LANDWAYS WILL BE OWNED BY COUNCIL.

5. THESE SERVICE COORDINATION PLANS HAVE BEEN COMPILED FOR INFORMATION ONLY AND SHOULD NOT BE RELIED UPON FOR ANY OTHER PURPOSE THAN SUPPORTING INFORMATION.

6. UTILITY SUPPLY POINTS SHOWN INDICATIVELY. TO BE CONFIRMED AT DETAILED DESIGN.

01	ISSUE FOR APPROVAL	13/06/2018
Issue	Description	Date



Client

Status	PRELIMINARY ONLY NOT TO BE USED FOR CONSTRUCTION	
Scales	1 : 250	Current Issue Signatures
Original Size	A1	Drawn J. QUIAMBAO
Height Datum	AHD	Designed K. ANGELES
Grid	MGA	Checked A. KALAJZICH
		Approved D. SINGH
Filename: C-02-502-10006946-mnd-ServicesCoordinationPlanSheet2.dwg		

Project

WILLOWDALE
MEDIUM DENSITY
PRECINCT 8

Title

SERVICES PLAN
SHEET 2 OF 2

Arcadis Australia Pacific Pty Limited
Level 16, 580 George St
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arcadis.com

Drawing No. C-02-502 - 10006946 - 01

Project No. 10006946

Issue 01