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LENDLEASE JORDAN SPRINGS EAST STAGE 3D - CIVIL WORKS **DEVELOPMENT APPLICATION**



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22.02.19

05.06.18

Date

30.07.19 REISSUED FOR DEVELOPMENT APPLICATION APPROVAL

ISSUED FOR DEVELOPMENT APPLICATION APPROVAL

Description

ISSUED FOR DRAFT DEVELOPMENT APPLICATION

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Des. Verif. Appd.

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SCHEDULE OF DRAWINGS

DRAWING No. CV-CARDNO-ST03D-1001 CV-CARDNO-ST03D-1011 CV-CARDNO-ST03D-1021 CV-CARDNO-ST03D-1031 CV-CARDNO-ST03D-1041 CV-CARDNO-ST03D-1101 CV-CARDNO-ST03D-1131 CV-CARDNO-ST03D-1251 CV-CARDNO-ST03D-1252 CV-CARDNO-ST03D-1301 CV-CARDNO-ST03D-1351 CV-CARDNO-ST03D-1352 CV-CARDNO-ST03D-1601 CV-CARDNO-ST03D-1602 CV-CARDNO-ST03D-1701 CV-CARDNO-ST03D-2201 CV-CARDNO-ST03D-2202 CV-CARDNO-ST03D-2301

DESCRIPTION **COVER SHEET & DRAWING SCHEDULE GENERAL NOTES & LEGENDS** CONTEXT PLAN GENERAL ARRANGEMENT PLAN DEVELOPMENT APPLICATION STAGING PLAN AND ROAD HIERARCHY PLAN EROSION AND SEDIMENTATION CONTROL PLAN EROSION AND SEDIMENTATION CONTROL DETAILS TYPICAL ROAD CROSS SECTIONS AND PAVEMENT TYPES SHEET 1 TYPICAL ROAD CROSS SECTIONS AND PAVEMENT TYPES SHEET 2 CIVIL WORKS AND STORMWATER DRAINAGE PLAN ROAD LONGITUDINAL SECTIONS SHEET 1 ROAD 013 & 027 ROAD LONGITUDINAL SECTIONS SHEET 2 ROAD 028 **CIVIL WORKS DETAILS SHEET 1** CIVIL WORKS DETAILS SHEET 2 PAVEMENT, SIGNAGE & LINEMARKING PLAN STORMWATER DRAINAGE DETAILS SHEET 1 STORMWATER DRAINAGE DETAILS SHEET 2 INTERNAL STORMWATER CATCHMENT PLAN

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GENERAL

- ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH PENRITH CITY COUNCIL ENGINEERING CONSTRUCTION SPECIFICATION FOR CIVIL WORKS.
- PENRITH CITY COUNCIL STANDARD DETAILS TO BE USED AT ALL TIMES.

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 CARDNO.
- MAKE SMOOTH CONNECTION WITH EXISTING WORKS AND SURFACES.
- 4. ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL
- . ALL 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.
- 7. ASPHALTIC CONCRETE SHALL CONFORM TO R.M.S. SPECIFICATION R116.
- 3. ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S. FORM 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 50m³ OF BASECOURSE MATERIAL PLACED.
- ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH R.M.S. FORM 3051, AND COMPACTED TO MINIMUM 95% MODIFIED DENSITY IN ACCORDANCE WITH A.S 1289 5.2.1 FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 100m³ OF SUB-BASE COURSE MATERIAL PLACED.
- 10. AS AN ALTERNATIVE TO THE USE OF IGNEOUS ROCK AS A SUB-BASE MATERIAL IN (9) 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 PENRITH CITY COUNCIL AND THE SUPERINTENDENT.
- 11. A HANDRAIL OR SAFETY BARRIER IS TO BE PROVIDED AT THE TOP OF ALL HEADWALLS AND RETAINING WALLS GREATER THAN 1m HIGH IN ACCORDANCE WITH THE LENDLEASE GMR'S.

BULK EARTHWORKS NOTES

- . ORIGIN OF LEVELS: REFER SURVEY NOTES
- 2. STRIP ALL TOPSOIL/ORGANIC MATERIAL FROM CONSTRUCTION AREA AND STOCK PILE AS DIRECTED BY SUPERINTENDENT FOR FUTURE REUSE.
- . EXCAVATED MATERIAL TO BE USED AS STRUCTURAL FILL PROVIDED THE PLACEMENT MOISTURE CONTENT OF THE MATERIAL IS +/- 2% OF THE OPTIMUM MOISTURE CONTENT.

(AS 1289 E 5.1.1.)

- 4. COMPACT FILL AREAS AND SUBGRADE TO NOT LESS THAN: STANDARD DRY DENSITY LOCATION
- UNDER BUILDING SLABS ON GROUND 98% UNDER ROADS AND 100% CARPARKS
- LANDSCAPED AREAS UNLESS NOTED OTHERWISE 98%
- 5. FOR NON COHESIVE MATERIAL, COMPACT TO 75% DENSITY INDEX.
- . BEFORE PLACING FILL, PROOF ROLL EXPOSED SUBGRADE WITH AN 8 TONNE (MIN) DEADWEIGHT SMOOTH DRUM VIBRATORY ROLLER TO DETECT THEN REMOVE SOFT SPOTS (AREAS WITH MORE THAN 2mm MOVEMENT UNDER ROLLER).
- FREQUENCY OF COMPACTION TESTING SHALL BE NOT LESS THAN:-(A) 1 TEST PER 1,000m³ OF FILL PLACED PER LAYER OF FILL.
- (B) 3 TESTS PER VISIT

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- (C) 1 TEST PER 1000m² OF EXPOSED SUBGRADE "LEVEL 1" TESTING SHALL BE TESTING IN ACCORDANCE WITH AS 3798 (1996).
- 3. FILLING TO BE PLACED IN MAXIMUM 300mm LOOSE LAYERS AND
- COMPACTED AS SPECIFIED
- 9. NO FILLING SHALL TAKE PLACE TO EXPOSED SUBGRADE UNTIL THE AREA HAS BEEN PROOF ROLLED IN THE PRESENCE OF A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER AND APPROVAL GIVEN IN WRITING THAT FILLING CAN PROCEED.

EROSION AND SEDIMENT CONTROL NOTES

GENERAL INSTRUCTIONS

- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF EROSION AND SEDIMENTATION TO THE SATISFACTION OF COUNCIL, NSW OFFICE OF WATER, SYDNEY WATER, THE OFFICE OF ENVIRONMENT AND HERITAGE, AND LENDLEASE'S REPRESENTATIVE. TO THIS END, THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE DRAWINGS SHALL ONLY BE USED AS A GUIDE BY THE CONTRACTOR, AND REPRESENT THE MINIMUM REQUIREMENT ONLY.
- THE CONTRACTOR SHALL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE LOCATED AS DOCUMENTED OR AS OTHERWISE DIRECTED BY THE SUPERINTENDENT.
- ALL WORK SHALL BE GENERALLY CARRIED OUT IN ACCORDANCE WITH a. LOCAL AUTHORITY REQUIREMENTS
- b. EPA REQUIREMENTS c. NSW DEPARTMENT OF HOUSING 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:
- a. INSTALL A SEDIMENT FENCE ALONG THE BOUNDARIES AS SHOWN ON PLAN. REFER DETAIL.
- b. CONSTRUCT STABILISED CONSTRUCTION ENTRANCE TO LOCATION AS DETERMINED BY SUPERINTENDENT/ENGINEER. REFER DETAIL.
- c. INSTALL SEDIMENT BASIN AS SHOWN ON PLAN (D) INSTALL SEDIMENT TRAPS AS SHOWN ON PLAN.
- d. 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.

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 IS PRACTICABLE AFTER THE 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.
- 2. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.
- 3. ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.
- 4. ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY: a. PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS
- INSTALLED OUTSIDE THE DRIP LINE b. ENSURING THAT NOTHING IS NAILED TO THEM
- c. PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS.
- (I) ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICH EVER IS THE GREATER
- (II) A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL
- FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH (III) CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

NOISE

EPA AND COUNCIL REQUIREMENTS MUST BE ADHERED TO REGARDING LEVEL OF NOISE AND WORKING HOURS TO ENSURE THAT RESIDENTS AND OTHER APPLICABLE NEIGHBORS TO THE SITE ARE NOT DISTURBED UNREASONABLY. THE GENERATION OF NOISE MUST BE MINIMISED.

DUST

DUST MUST BE MINIMISED TO ENSURE THERE IS NO HEALTH RISK OR LOSS OF AMENITY.

STAGING OF WORKS STRIPPING.

STOCKPILE PROTECTION

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. CARDNO 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 DESIGN CRITERIA: (A) AVERAGE RECURRENCE INTERVAL: 5 YEAR ARI PIPED DRAINAGE

100 YEAR ARI OVERLAND FLOW

5 MINUTES 5 YEAR ARI= 126mm/hr

- SOLVENT WELDED JOINTS.
- TYPF
- THEIR SOCKETS.

- 12. ENLARGERS, CONNECTIONS AND JUNCTIONS TO BE PREFABRICATED FITTINGS WHERE PIPES ARE LESS THAN 300 DIA.

- UNLESS NOTED OTHERWISE.

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STRIPPING WORKS ARE TO BE STAGED TO MINIMISE EXTENT OF EXPOSED AREA. WEATHER CONDITIONS TO BE ASSESSED PRIOR TO UNDERTAKING

SEDIMENT RETENTION STRUCTURES TO BE PLACED DOWNSLOPE OF ANY STOCKPILES. STOCKPILE IN PLACE > 28 DAYS TO BE TEMPORARILY GRASSED.

VEHICLE AND ROAD MANAGEMENT

SITE ACCESS TO BE RESTRICTED TO ALLOCATED TRUCK ROUTES. EXTERNAL ROADS TO BE SWEPT REGULARLY FOR DURATION OF WORKS.

EXISTING UNDERGROUND SERVICES NOTES

STORMWATER DRAINAGE NOTES

(B) RAINFALL INTENSITIES: TIME OF CONCENTRATION:

100 YEAR ARI= 219mm/hr PIPES 375 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '2'

APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O. PIPES 300 DIA AND LESS SHALL BE DWV GRADE (CLASS SN8) uPVC WITH

4. EQUIVALENT STRENGTH FRC PIPES MIN CLASS 3 MAY BE USED SUBJECT

TO PRIOR APPROVAL BY PENRITH CITY COUNCIL.

ALL PIPES ARE TO BE UNIFORMLY SUPPORTED ALONG THE LENGTH OF THE BARREL BY SUITABLE FILL MATERIAL. REFER TO BEDDING SUPPORT

PIPES WITH SOCKETS SHALL BE LAID IN BEDDING WHERE SUITABLE RECESSES HAVE BEEN PROVIDED TO ENSURE PIPES DO NOT BEAR ON

PIPES TO BE INSTALLED TO TYPE HS1 SUPPORT IN ACCORDANCE WITH AS 3725 (2007) IN ALL CASES BACKFILL TRENCH 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% STANDARD MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS 1289 5.2.1. (OR A DENSITY INDEX OF NOT LESS THAN 75).

REFER TO AS/NZS 3725:2007 TABLE B1 FOR REQUIRED FILL DEPTHS ABOVE PIPE BARREL PRIOR TO USE OF COMPACTION MACHINERY OR TRAVERSING OF PIPES BY GENERAL SITE EQUIPMENT.

WHERE WORKING METHODS REQUIRE HIGHER CLASS PIPE, THE CONTRACTOR SHALL REFER TO AS 3725 (2007) TO DETERMINE THE APPROPRIATE PIPE CLASS. PROPOSED PIPE CLASS SHALL BE REVIEWED BY CARDNO PRIOR TO INSTALLATION.

0. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS 3500.3 (2015).

1. THE USE OF PRECAST PITS IS ONLY PERMITTED WITH THE PRIOR APPROVAL OF PENRITH CITY COUNCIL.

13. WHERE SUBSOIL DRAINS PASS UNDER FLOOR SLABS AND VEHICULAR PAVEMENTS, UNSLOTTED uPVC DWV SEWER GRADE PIPE IS TO BE USED.

14. CARE IS TO BE TAKEN WITH LEVELS OF STORMWATER LINES. GRADES SHOWN ARE NOT TO BE REDUCED WITHOUT APPROVAL.

15. GRATES AND COVERS SHALL CONFORM TO AS 3996. MINIMUM CLASS C.

16. ALL BOX CULVERTS SHALL BE STRUCTURALLY DESIGNED BY THE MANUFACTURER AND DELIVERED TO SITE AS FIT FOR PURPOSE.

17. AT ALL TIMES DURING CONSTRUCTION OF STORMWATER PITS, ADEQUATE SAFETY PROCEDURES SHALL BE TAKEN TO ENSURE AGAINST THE POSSIBILITY OF PERSONNEL FALLING DOWN PITS.

STORMWATER DRAINAGE NOTES CONTINUED

18. 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.

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 POTHOLING TO IDENTIFY IT'S LOCATION TELSTRA WILL SEEK COMPENSATION FOR DAMAGES CAUSED TO IT'S PROPERTY AND LOSSES CAUSED TO TELSTRA AND IT'S CUSTOMERS.

SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY RPS GROUP PLC (FORMERLY WHELANS INSITES). BEING REGISTERED SURVEYORS. THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. CARDNO 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 CARDNO.

THE FOLLOWING NOTES HAVE BEEN TAKEN DIRECTLY FROM THE ORIGINAL SURVEY DOCUMENTS.

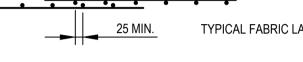
- ORIGIN OF MGA BASED SITE CO-ORDINATES FROM PM 147113 AND PLANE DISTANCES HAVE BEEN USED.
- CO-ORDINATES FOR PM 147113 WERE DEDUCED BY WHELANS FROM SUROUNDING SSM & PM'S ON PUBLIC RECORD. CO-ORDINATES FOR PM 147113 HAVE BEEN ADOPTED AS 292202.160E 6266005.820N
- CONTOUR INTERVAL 0.25m
- LEVELS ARE BASED ON AUSTRALIAN HEIGHT DATUM (AHD) USING SSM 79753 WITH RL OF 19.758 (ACC 2) LOCATED ON LINKS ROAD.
- FEATURES SHOWN INCLUDING TREES AND LEVELS ARE TO BE USED ONLY FOR CONCEPT PLANNING DESIGN. DATA SHOWN SHOULD NOT BE USED FOR CONSTRUCTION PURPOSES, PRIOR TO CONSTRUCTION ANY FEATURE OR LEVEL SHOULD BE VERIFIED IF THE LOCATION OR HEIGHT IS TO HAVE SIGNIFICANT IMPACT ON DESIGN OR CONSTRUCTION.
- 6. TREES SHOWN HAVE A TRUNK DIAMETER OF 300MM OR GREATER.
- TREE CAPTURE CONFIDENCE INTERVAL OF 99%

ROOF WATER KERB OUTLETS

- KERB OUTLETS TO BE PROVIDED IN ACCORDANCE WITH PENRITH CITY COUNCILS CIVIL WORKS SPECIFICATION AT EACH LOT WHERE INTERALLOTMENT DRAINAGE IS NOT PROVIDED
- 2. KERB OUTLETS ARE TO BE CONSTRUCTED AT THE SAME TIME KERBS ARE POURED.

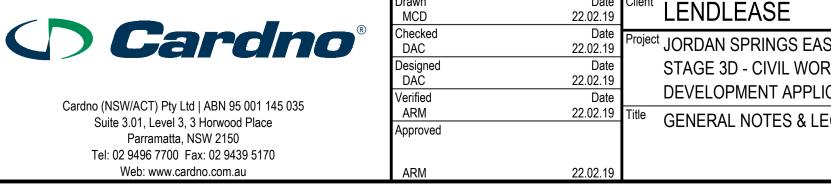
STREET FURNITURE

- ALL LIGHT POLES, STREET NAMES AND BUS SHELTERS IN THIS SUBDIVISION WILL BE GALVANISED BLACK POWDER COATED TO THE SATISFACTION OF PENRITH CITY COUNCIL. FURTHER THAT THESE LIGHT POLES WILL COMPLY WITH COUNCIL'S SPECIFICATIONS.
- ALL LIGHT POLES ARE TO BE TYPE 'MACARTHUR'. REFER ELECTRICAL DESIGN DRAWINGS.



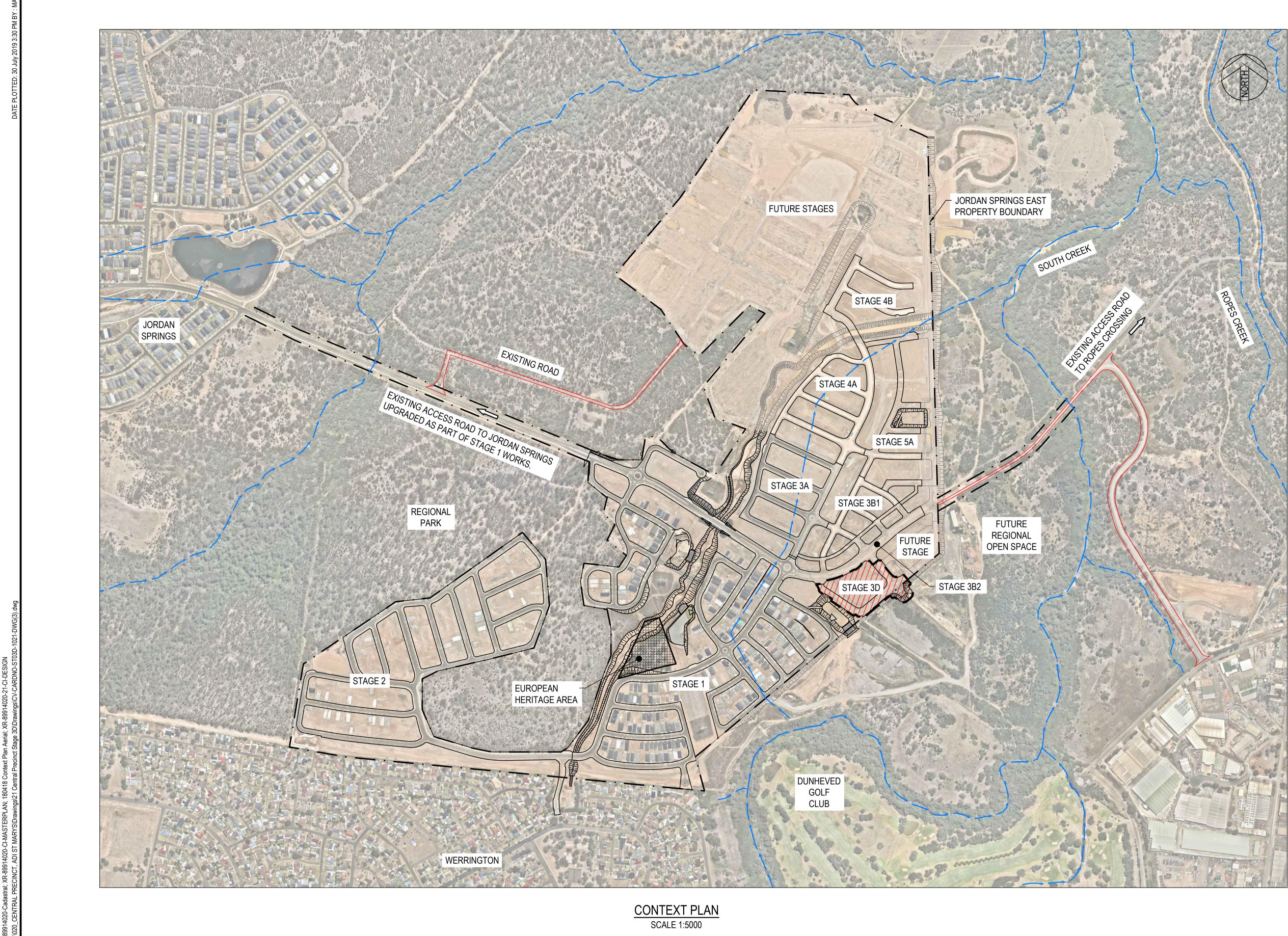
	PROPOSED	WORKS LEGEND
1. REINFORCEMENT NOTES 1. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY. IT IS NOT		
 NECESSARILY SHOWN IN TRUE PROJECTION. 2. SPLICES IN THE REINFORCEMENT SHALL BE MADE ONLY IN THE POSITIONS SHOWN. THE WRITTEN APPROVAL OF THE ENGINEER SHALL BE OBTAINED FOR ANY OTHER SPLICES. WHERE THE LAP LENGTH IS NOT SHOWN IT 	<u> </u>	PROPOSED CONTOURS SITE BOUNDARY
 FOR ANY OTHER SPLICES. WHERE THE LAP LENGTH IS NOT SHOWN IT SHALL BE SUFFICIENT TO DEVELOP THE FULL STRENGTH OF THE REINFORCEMENT. WELDING OF REINFORCEMENT WILL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED IN WRITING BY THE 	4	BATTER SLOPE
ENGINEER. 4. REINFORCEMENT SYMBOLS -		EXTENT OF WORKS
N - DENOTES GRADE 400N TEMPCORE DEFORMED BARS TO AS 1302 R - DENOTES GRADE 250R HOT ROLLED PLAIN BARS TO AS 1302 SL - DENOTES HARD-DRAWN WIRE REINFORCING FABRIC TO AS 1304 W - DENOTES HARD-DRAWN PLAIN WIRE TO AS 1303		TREES TO BE REMOVED AS PART OF BULK EARTHWORKS PACKAGE.
 REINFORCEMENT COGS AND EXTENSIONS TO BE IN ACCORDANCE WITH AS3600. NUMBER OF BARS IN GROUP		TREES TO BE RETAINED
4N20-200		BATTERS
NOMINAL BAR SIZE IN mm	1001	LOT NUMBERS
6. ALL REINFORCEMENT FABRIC SHALL COMPLY WITH AS1303 AND AS1304 AND SHALL BE SUPPLIED AS FLAT SHEETS.	K&G	KERB & GUTTER REFER PENRITH CITY COUNCIL STANDARD DETAIL.
FABRIC SHALL BE LAPPED 2 TRANSVERSE WIRES PLUS 50mm.	RK&G	ROLL KERB & GUTTER REFER PENRITH CITY COUNCIL STANDARD DETAIL.
 FABRIC SHALL BE LAPPED 2 TRANSVERSE WIRES PLUS SUMM. BUNDLED BARS SHALL BE TIED TOGETHER AT 30 BAR DIAMETER CENTRES WITH 3 WRAPS OF WIRE. 7. PLACE SUFFICIENT BAR CHAIRS UNDER BOTTOM REINFORCING RODS AND TOP CROSSRODS IN SLABS TO ALLOW THEM TO BE SUPPORTED IN 	КО	KERB ONLY REFER PENRITH CITY COUNCIL STANDARD DETAIL
THEIR CORRECT POSITIONS DURING CONCRETING (NOT GREATER THAN 900mm CENTRES BOTH WAYS) 8. REINFORCEMENT LAYERS DENOTED THUS UNO -	FK	FLUSH KERB REFER DRAWING 1601 FOR DETAILS
TT - DENOTES TOP BARS LAID LAST IN TOP T - DENOTES TOP BARS LAID FIRST IN TOP B - DENOTES BOTTOM BARS LAID SECOND IN BOTTOM	DD	DISH DRAIN REFER DRAWING 1601 FOR DETAILS
BB - DENOTES BOTTOM BARS LAID FIRST IN BOTTOM 9. WHERE TRANSVERSE TIE BARS ARE NOT SHOWN PROVIDE N12-300 SPLICED WHERE NECESSARY AND LAP WITH MAIN BARS 450mm UNLESS NOTED OTHERWISE.	VC	VEHICULAR CROSSING REFER PENRITH CITY COUNCIL STANDARD DETAIL.
 MINIMUM LAP LENGTHS UNLESS NOTED OTHERWISE SHALL BE - 500 FOR N12 BARS 600 FOR N16 BARS 900 FOR N20 BARS 1000 FOR N24 BARS 	PR	PRAM RAMP REFER PENRITH CITY COUNCIL FOR DETAIL.
1200 FOR N28 BARS 1500 FOR N32 BARS 1800 FOR N36 BARS		INDICATIVE GARAGE/DRIVEWAY LOCATION ONLY
CONCRETE NOTES		STORMWATER PIPELINE
 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS. 	Ø375	
2. CONCRETE QUALITY ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND		CONCRETE HEADWALL
CONCRETE UNLESS NOTED OTHERWISE. ELEMENT AS 3600 F'c MPa SPECIFIED NOMINAL AT 28 DAYS SLUMP AGG. SIZE	412	DRAINAGE PIT No.
VEHICULAR BASE326020KERBS AND PATHS258020PITS, FOUNDATIONS &408020		
- CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL		STORMWATER DRAINAGE PITS
- PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379.	4552	SCOUR PROTECTION EXISTING WATER COURSES AS
 NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY CARDNO. CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY SUBJL BE 40mm TOD AND 70mm FOR EXTERNAL EDGES UNLESS NOTED 		PER 1:10000 TOPOGRAPHIC MAPS
 SHALL BE 40mm TOP AND 70mm FOR EXTERNAL EDGES UNLESS NOTED OTHERWISE. 5. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL 		STATION
PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1m CENTRES BOTH WAYS. BARS SHALL BE TIED AT ALTERNATE INTERSECTIONS.	EXISTING W	ORKS LEGEND
6. 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 FOOTINGS SHALL BE COMPACTED		TRANSGRID PYLON
AND CURED IN ACCORDANCE WITH R.T.A. SPECIFICATION R83.	-··	EXISTING CONTOURS
		TRANSGRID EASEMENT
	e	TRANSGRID OVERHEAD ELECTRICAL
	s	EXISTING SEWER
	•	MAINTENANCE SHAFT
l		

	REINFORCEMENT NOTES	PROPOSED	WORKS LEGEND
	. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY. IT IS NOT		
	2. SPLICES IN THE REINFORCEMENT SHALL BE MADE ONLY IN THE POSITIONS SHOWN. THE WRITTEN APPROVAL OF THE ENGINEER SHALL BE OBTAINED FOR ANY OTHER SPLICES. WHERE THE LAP LENGTH IS NOT SHOWN IT		
	REINFORCEMENT. 8. WELDING OF REINFORCEMENT WILL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED IN WRITING BY THE	4	BATTER SLOPE
	. REINFORCEMENT SYMBOLS -		EXTENT OF WORKS
	R - DENOTES GRADE 250R HOT ROLLED PLAIN BARS TO AS 1302 SL - DENOTES HARD-DRAWN WIRE REINFORCING FABRIC TO AS 1304 W - DENOTES HARD-DRAWN PLAIN WIRE TO AS 1303		
	AS3600.		TREES TO BE RETAINED
 1. The Frances Participants of the Canado Shalow. With response to the Canado Shalow. With response the Shalow Shalow. 1. The Canado Shalow. Shalow.	4N20-200		BATTERS
ASIMA AND BYLLES APPLIED AS FLAT SHETS Concerning and a submit of the concerning and	5. THE FIGURES FOLLOWING THE FABRICS SYMBOL 'SL' IS THE REFERENCE NUMBER FOR FABRIC TO AS 1304.	1001	LOT NUMBERS
PARKE SHULE UPPER 2 TAXABOS PARKE BANADO DETAL SHULDE DARS SHULE UPPER 2 TAXABOS PARKE BANADO DETAL SHULDE DARS SHULE UPPER 2 TAXABOS PARKE BANADO DETAL SHULDE DARS SHULE UPPER 2 TAXABOS PARKE SHULDE DARS SHULE UPPER 2 TAXABOS PARKE SHULDE DARS SHULE UPPER 2 TAXABOS PARKE SHULE SHUES SHULE DE ANADO DETAL SHUTDES TOTOR DETALS SHULDES MATERIA DAS SHULE DE ANADO DETAL SHUTDES TOTOR DETALS SHULDES MATERIA DAS SHULE DE ANADOS SHULE SHALL DE ANATONICA SHULE SHALL DE ANATONICA DAS SHULE DE ANADOS SHULE SHALL DE ANATONICA DAS SHULE DE ANADOS SHULE SHALL DE ANADOS SHULE SHALL DE ANATONICA DES SHULE DE ANADOS SHULE SHALL DE ANADOS SHULE SH	AS1304 AND SHALL BE SUPPLIED AS FLAT SHEETS.	K&G	REFER PENRITH CITY COUNCIL
EVENT THE BARS SHALL BE UNDER THE TO COURSE THE ALL DECORPORE TO MURATER PROVIDE TO COURSE THE ALL DECORPORES ON THE ALL DECORPORES ON THE ALL DECORPORES TO THE ALL DECORPORES ON THE ALL DECORPO		RK&G	REFER PENRITH CITY COUNCIL
THE COMPLET POSITIONS DURING CONCRETEING, NOT GREATER THAN BOW CONTRESSION WAYS REPORTING STORMAGE DURING THIS NOT- THE CONTRESSION WAYS THE OND TO MARK LAD LEVENT TO THE STORMAGE THE OND TO MARK LAD LEVENT TO THE STORMAGE BIL ODD WHERE TRANSPERS TO MARK LAD LEVENT TO THE MARK STORMAGE BIL ODD WHERE TRANSPERS TO MARK LAD LEVENT WOTTOW BIL ODD WHERE TRANSPERS TO MARK LAD LEVENT WOTTOW BIL ODD WHERE TRANSPERS TO THE MOTTOW BIL ODD WHERE TRANSPERS TO MARK LAD LEVENT WOTTOW BIL ODD WHERE TRANSPERS TO THE MOTTOW BIL ODD WHERE TRANSPERS TO THE MOTTOW THAN ADD REPORT TRANSPERS BIL ODD WHERE TRANSPERS TO THE MOTTOW THAN ADD REPORT TRANSPERS BIL ODD WHERE TRANSPERS TO THE MOT	BUNDLED BARS SHALL BE TIED TOGETHER AT 30 BAR DIAMETER CENTRES WITH 3 WRAPS OF WIRE. 7. PLACE SUFFICIENT BAR CHAIRS UNDER BOTTOM REINFORCING RODS	КО	REFER PENRITH CITY COUNCIL
T - DENOTES TOP BASE LAD FIRST IN TOP B - DENOTES BOTTOM BASE LAD FIRST IN BOTTOM B - DENOTES BOTTOM BASE LAD FIRST IN BOTTOM B - DENOTES BOTTOM BASE LAD FIRST IN BOTTOM B - DENOTES BOTTOM BASE LAD FIRST IN BOTTOM B - DENOTES BOTTOM BASE LAD FIRST IN BOTTOM B - DENOTES BOTTOM BASE LAD FIRST IN BOTTOM B - DENOTES BOTTOM BASE LAD FIRST IN BOTTOM B - DENOTES BOTTOM BASE LAD FIRST IN BOTTOM B - DENOTES BOTTOM BASE LAD FIRST IN BOTTOM B - DENOTES BOTTOM BASE LAD FIRST IN BOTTOM B - DENOTES BOTTOM BASE LAD FIRST IN BOTTOM B - DENOTES BOTTOM BASE LAD FIRST IN BOTTOM B - DENOTES BOTTOM BASE LAD FIRST IN BOTTOM B - DENOTES BOTTOM BASE LAD FIRST IN BOTTOM B - DENOTES BOTTOM BASE LAD FIRST IN BOTTOM B - DENOTES BOTTOM BASE LAD FIRST IN BOTTOM B - DENOTES BOTTOM BASE LAD FIRST IN BOTTOM B - DENOTES BASE B - DENOTED OTHERWISE SHALL BE - BOTTOM BASE B - DENOTES BASE B - DENOTES ALL WORKMANEJE AND MATERNALS SHALL BE IN BOOTOM B - DENOTES BASE B - DENOTES BASE B - DENOTEMATING D'E THE CONTRACT DOUMLET IS. ELEMENT THE CONTRACT DOUMLETS. EXCEPT WHERE VARED BY THE CONTRACT DOUMLETS. CONCRETE FILM APPLY TO THE AT ASSE CONCRETE SPECIFICATION CONCRETE FULL APPLY TO THE ALTORYDON BASE. DELEMENT A BASE BASE B - DEDIFICATION TYPE SH.	THEIR CORRECT POSITIONS DURING CONCRETING (NOT GREATER THAN 900mm CENTRES BOTH WAYS) 3. REINFORCEMENT LAYERS DENOTED THUS UNO -	FK	
	T - DENOTES TOP BARS LAID FIRST IN TOP B - DENOTES BOTTOM BARS LAID SECOND IN BOTTOM	DD	
BARS BOD COR NIZ BARS BOD COR NZ BARS BOD	WHERE TRANSVERSE TIE BARS ARE NOT SHOWN PROVIDE N12-300 SPLICED WHERE NECESSARY AND LAP WITH MAIN BARS 450mm UNLESS NOTED OTHERWISE.	VC	REFER PENRITH CITY COUNCIL
1800 FOR NS2 BARS 1800 FOR NS2 BARS <t< td=""><td>500 FOR N12 BARS 600 FOR N16 BARS 900 FOR N20 BARS 1000 FOR N24 BARS</td><td></td><td>REFER PENRITH CITY COUNCIL FOR</td></t<>	500 FOR N12 BARS 600 FOR N16 BARS 900 FOR N20 BARS 1000 FOR N24 BARS		REFER PENRITH CITY COUNCIL FOR
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 CONCRETE QUALITY ALL RECURREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT I SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE INLESS NOTED OTHERWISE. LELEMENT AS 3800 Fro MPS SPECIFIED NOMINAL VEREDS AND PATHS 22 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY	Ø375	STORMWATER PIPELINE
DOCUMENT 1 SHALL APPLY TO THE FORWWORK, REINFORCEMENT AND CONCRETE UNLESS NOTEO OTHERWISE. Image: Concentration of the concentratio	2. CONCRETE QUALITY	(CONCRETE HEADWALL
AT 28 DAYS SLUMP AGG. SIZE VEHICULAR BASE 32 60 20 VENESS AND PATHS 25 80 20 CULVERT BASE SLABS 20 20 20 CEMENT TYPE SHALL BE (ACSE SPECIFICATION) TYPE SL FROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379. SCOUR PROTECTION 3. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY CARDNO. EXISTING WATER COURSES AS PER 1:10000 TOPOGRAPHIC MAPS YEALL EX domm TOP AND 70mm FOR EXTERNAL EDGES UNLESS NOTED OTHERWISE. ENDEAVOUR ENERGY KIOSK SUB STATION 5. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN IM CENTRES BOTH WAYS. BARS SHALL BE TED AT ALTERNARE INTERSECTIONS. 6. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK. THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE MILL BE A DENSE HOMOGENEOUS MASS. 6. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK. THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE CHAIRS AT NOT GREATER THAN IM CENTRES BOTH WAYS. BARS SHALL BE COMPACTED AT ALTERNARE OF STONE POCKETS. ALL CONCRETE MILL BE A DENSE HOMOGENEOUS MASS. 6. THE FINISHED CONCRETE SHALL BE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK. THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE CHAIRS AT THOR SUCCED TO ALL CONCRETE GAT AND CONCRETE CH	DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE. ELEMENT AS 3600 F'c MPa SPECIFIED NOMINAL	(4\2)	
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		e	
MAINTENANCE SHAFT		s	EXISTING SEWER
		•	MAINTENANCE SHAFT



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S EAST WORKS	Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES						
APPLICATION	Datum		Scale	Size			
S & LEGENDS	AHD				A1		
A LEGENDS	Drawing Number				Revision		
	CV-CARDNO-ST03D-1011				3		



3	30.07.19	REISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM
2	22.02.19	ISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM
1	05.06.18	ISSUED FOR DRAFT DEVELOPMENT APPLICATION	DAC	ARM	ARM
Rev.	Date	Description	Des.	Verif.	Appd

lendlease

Document Set ID: 8942387 Version: 1, Version Date: 27/11/2019

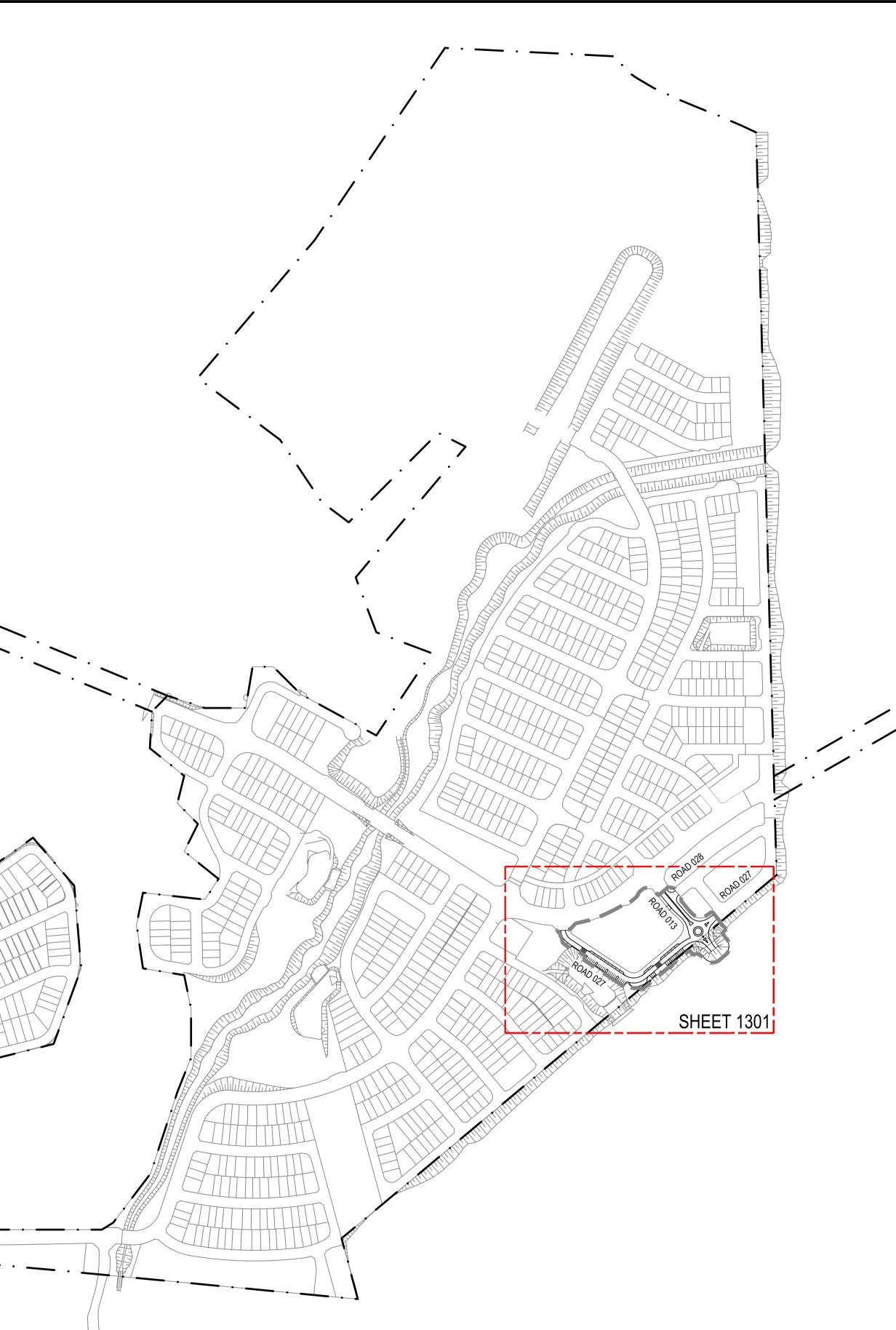
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Drawn MCD	Date 22.02.19	Client LENDLEASE				
Checked DAC		Project JORDAN SPRINGS EAST	Status	APPROVAL		
Designed DAC	Date 22.02.19	STAGE 3D - CIVIL WORKS		OR CONSTRUCTION PL		
Verified ARM	Date 22.02.19	Title CONTEXT PLAN	Datum AHD	Scale Size 1:5000	A1	
Approved		CONTEXT FLAN	Drawing Number		Revision	
ARM	22.02.19		CV-CARDNO	CV-CARDNO-ST03D-1021		

LEGEND							
(7777	STA	STAGE 3D EXTENT					
<u> </u>		JORDAN SPRINGS EAST BOUNDARY					
→→		EXISTING WATER COURSES AS PER 1:10000 TOPOGRAPHIC MAPS					
0 100	200	300	400	500m			
SCALE 1:5000				@A1			

4	30.07.19	REISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM
3	22.02.19	ISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM
2	15.06.18	REISSUED FOR DRAFT DEVELOPMENT APPLICATION	DAC	ARM	ARM
1	05.06.18	ISSUED FOR DRAFT DEVELOPMENT APPLICATION	DAC	ARM	ARM
Rev.	Date	Description	Des.	Verif.	Appd.





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Drawn
MCDDate
22.02.19ClientLENDLEASEChecked
DACDate
22.02.19ProjectJORDAN SPRINGS E
STAGE 3D - CIVIL W
DEVELOPMENT APEVerified
ARMDate
22.02.19DEVELOPMENT APEApprovedTitleGENERAL ARRANG

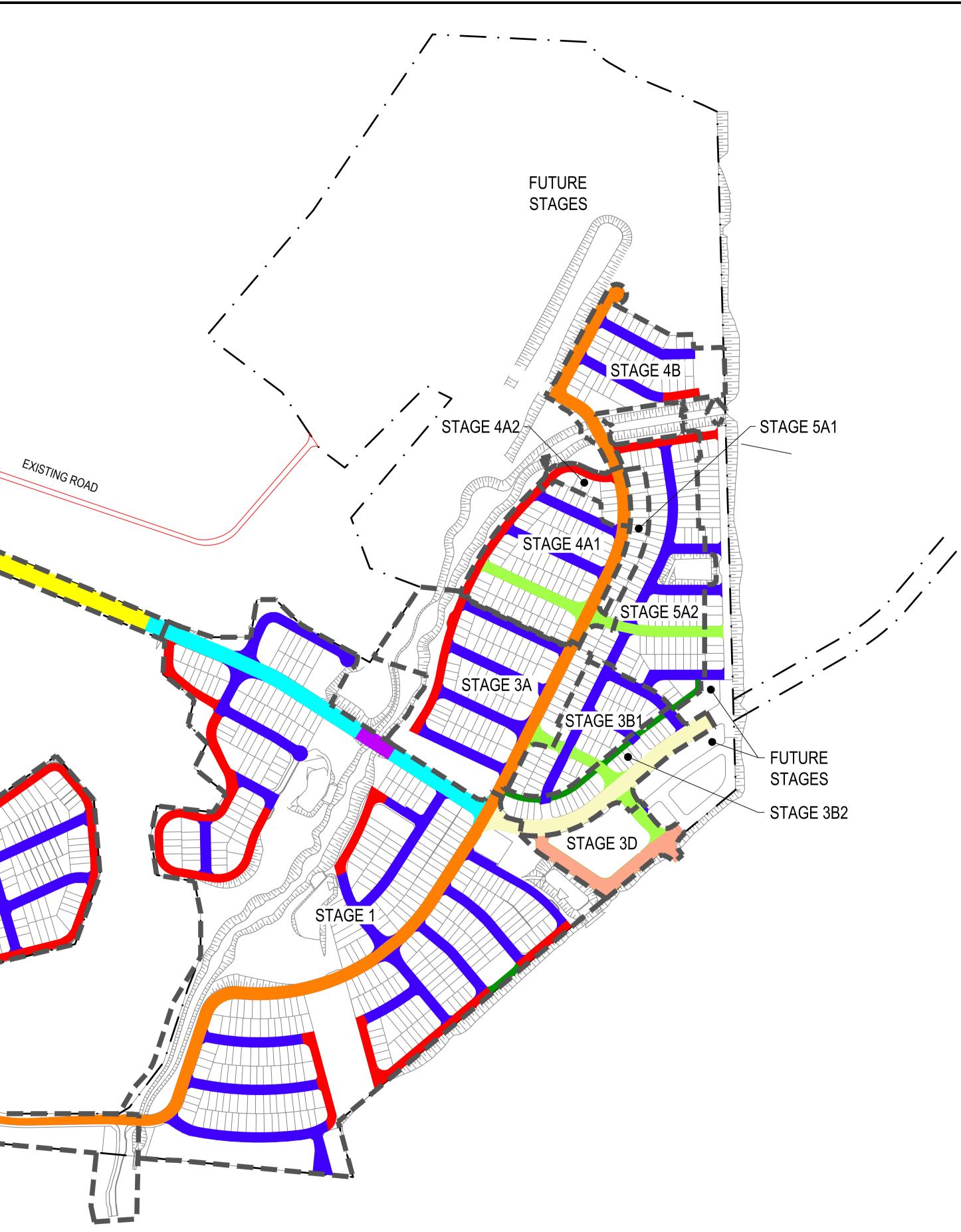
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	JUALE 1.4	000			
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STAGE 2

3	30.07.19	REISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM	
2	22.02.19	ISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM	
1	05.06.18	ISSUED FOR DRAFT DEVELOPMENT APPLICATION	DAC	ARM	ARM	
Rev.	Date	Description	Des.	Verif.	Appd.	
						-

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Document Set ID: 8942387 Version: 1, Version Date: 27/11/2019



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Parramatta, NSW 2150

Tel: 02 9496 7700 Fax: 02 9439 5170 Web: www.cardno.com.au

Date Client LENDLEASE Drawn MCD Checked DAC Date
22.02.19Project
JORDAN SPRINGSDate
22.02.19STAGE 3D - CIVIL W
DEVELOPMENT AP
DEVELOPMENT APDate
22.02.19TitleDevelopment Ap
Development Ap Designed DAC Verified ARM Approved AND ROAD HIERA 22.02.19 ARM

LEGEND		
	STAGE BOUNDARY	
	PROPOSED LOTS	
	A2 ACCESSWAY	
	BRIDGE	
	B1 BUS LINK	
	C2 COLLECTOR ROAD MAIN STREET	
	C5-C8 COLLECTOR RC REFER DRAWING SET CV-CARDNO-ST03B2 F TYPICAL CROSS SEC	FOR
	E1 EMPLOYMENT STR	RET
	JORDANS CONNECTO REFER DRAWING SET 89914020-JC01 FOR T CROSS SECTIONS.	-
	L1 MINOR LOCAL STR	EET
	L2 PEDESTRIAN PRIO	RITY
	L3 LOCAL STREET POSSIBLE BUS ROUTI	E
	P1 PARK EDGE ROAD	
	P2 PARK EDGE ROAD POSSIBLE BUS LINK	
	V1-V9 VILLAGE CENT STREET. REFER DRAV FOR TYPICAL CROSS	WING 1251
100	200 300	400

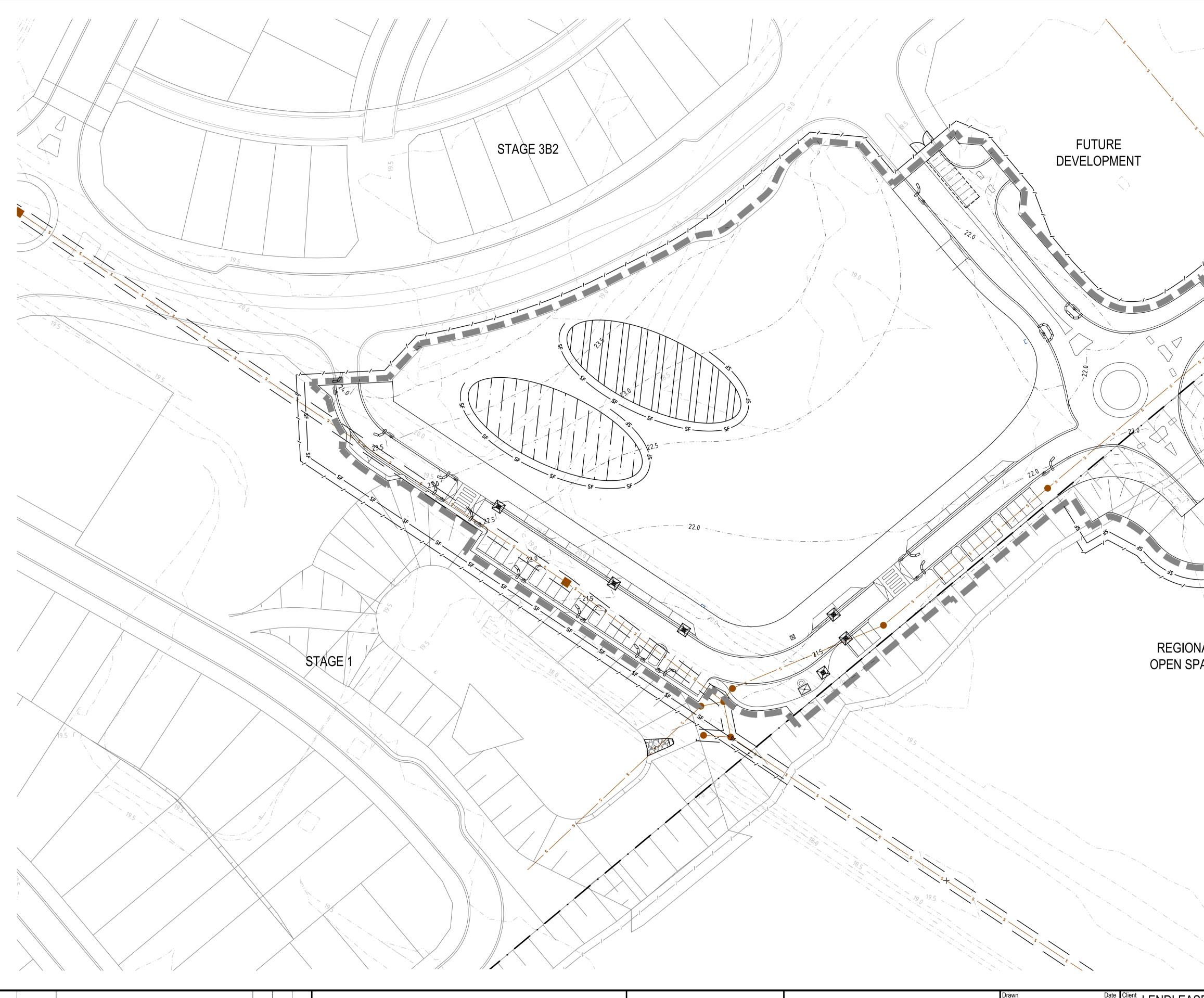
APPLICATION Datum Scale Size APPLICATION STAGING PLAN AHD 1:4000 A1 Drawing Number Drawing Number Revision						
APPLICATION STAGING PLAN APPLICATION STAGING PLAN ARCHY PLAN ARCHY PLAN ARCHY PLAN Revision	LWORKS	NOT TO BE USED FOR CONSTRUCTION PURPOSES				
APPLICATION STAGING PLAN Drawing Number Revision					Size	A1
		Drawing Number	RDNO-ST		I	

NOTES:

- BASED ON INFORMATION PROVIDED BY LENDLEASE (17/09/18).
 EXTENT OF FUTURE STAGES SUBJECT TO

- REFINEMENT. ROAD AND LOT LAYOUTS OUTSIDE OF PROPOSED STAGING BOUNDARIES ARE BASED 3. ON A PRELIMINARY MASTERPLAN PREPARED BY LENDLEASE AND IS SUBJECT TO FUTURE REFINEMENT.





4	30.07.19	REISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM
3	22.02.19	ISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM
2	15.06.18	REISSUED FOR DRAFT DEVELOPMENT APPLICATION	DAC	ARM	ARM
1	05.06.18	ISSUED FOR DRAFT DEVELOPMENT APPLICATION	DAC	ARM	ARM
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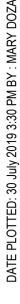
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FUTURE DEVELOPMENT	
REGIONAL OPEN SPACE	LEGEND — EXISTING 1800mm CHAIN WIRE FENCE — PROPOSED 1800mm CHAIN WIRE FENCE SILT FENCE SF SILT FENCE IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII
	LEVEL SPREADER INLET SEDIMENT TRAP DURING CONSTRUCTION, KERB INLET CONTROL AFTER CONSTRUCTION TO PENRITH CITY COUNCIL DETAILS. STRAW BALES SAND BAGS INDICATIVE TOPSOIL STOCKPILE LOCATIONS
Drawn Date 22.02.19 Client LENDLEASE	INDICATIVE FILL MATERIAL STOCKPILE LOCATIONS STE ENTRANCE 0 10 20 30 40 50m SCALE 1:500
Checked DACDate 22.02.19ProjectJORDAN SPRINGS EASTDesigned DACDate 22.02.19STAGE 3D - CIVIL WORKSVerified ARMDate 22.02.19DEVELOPMENT APPLICATIONApprovedTitleEROSION AND SEDIMENTATION CON PLANARM22.02.19Title	Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES Datum Scale Size AHD 1:500 A1 Drawing Number Revision A CV-CARDNO-ST03D-1101 4



SILT FENCE STAPLES ON TOP EDGE -TO HOLD CLOTH 1.2m STAR PICKET DRIVEN 0.6m INTO THE GROUND DISTURBED AREA DIRECTION OF FLOW GRAVEL (OPTIONAL) SEDIMENT FENCE (GEOTEXTILE FILTER FABRIC & STRAW BALE) SANDBAGS OVERLAP ONTO KERB -RUNOFF GAP BETWEEN BAGS ACT AS SPILLWAY — SEDIMENT TRAP FOR KERB INLET (ON GRADE - SANDBAG) REISSUED FOR DEVELOPMENT APPLICATION APPROVAL DAC ARM ARM 30.07.19

ISSUED FOR DEVELOPMENT APPLICATION APPROVAL

Description

ISSUED FOR DRAFT DEVELOPMENT APPLICATION

RETURNS EVERY MAX 20m

NOT TO SCALE

DISTURBED

 \vee \vee

— ANGLE FIRST STAKE TOWARDS

✓ ↓ NYLON OR WIRE

BINDINĞS

- THREE LAYERS OF SANDBAGS

WITH ENDS OVERLAPPED

NOT TO SCALE

DAC ARM ARM

DAC ARM ARM

Des. Verif. Appd.

NOT TO SCALE

UNDISTURBED

AREA

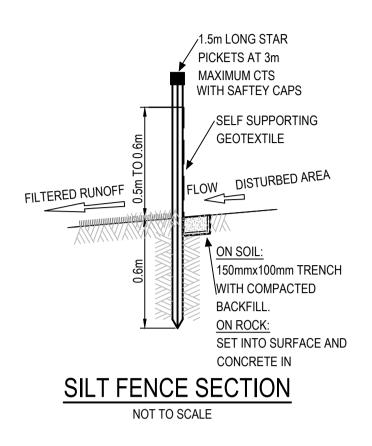
PREVIOUSLY LAID STRAW BALE

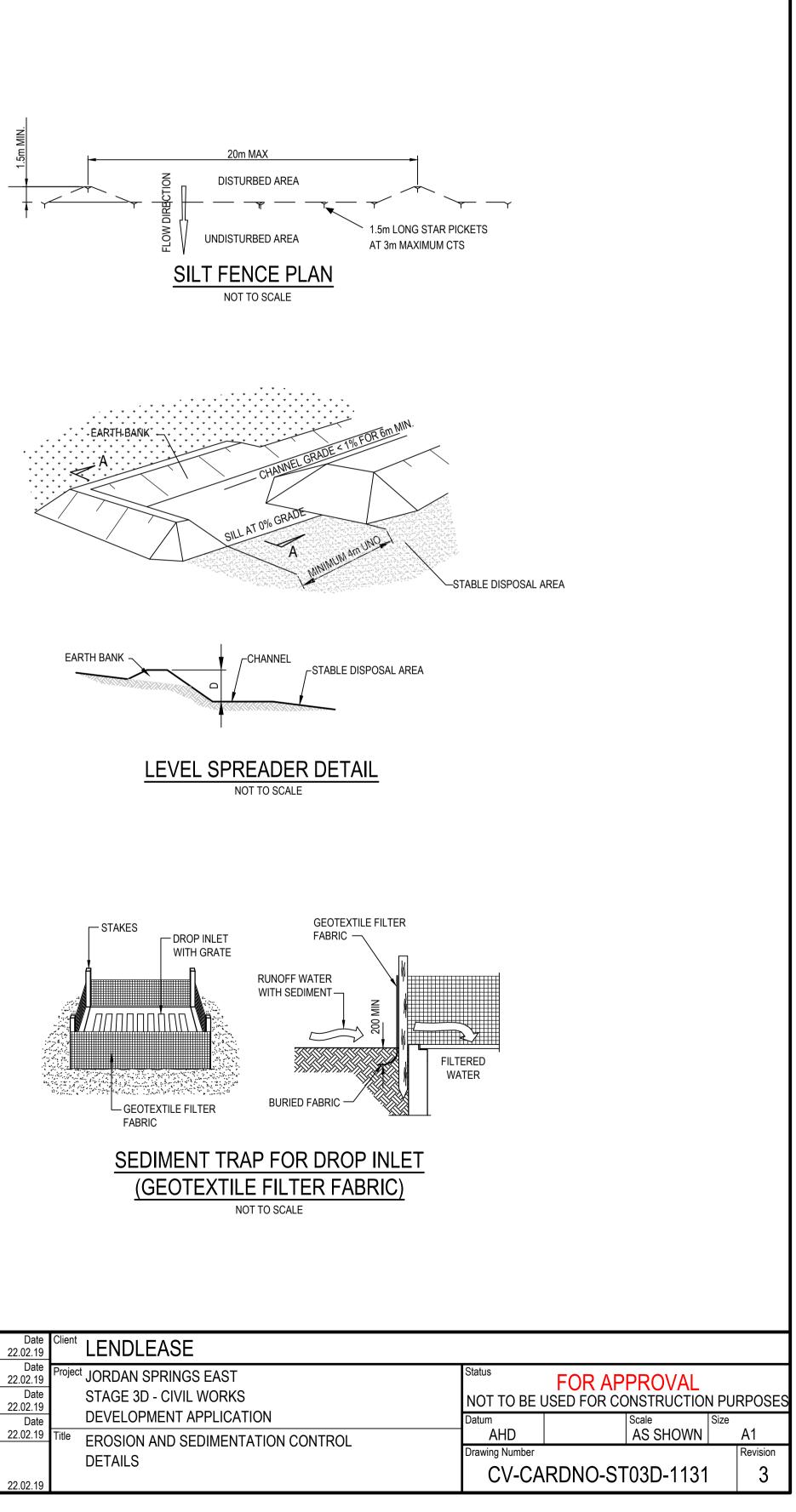


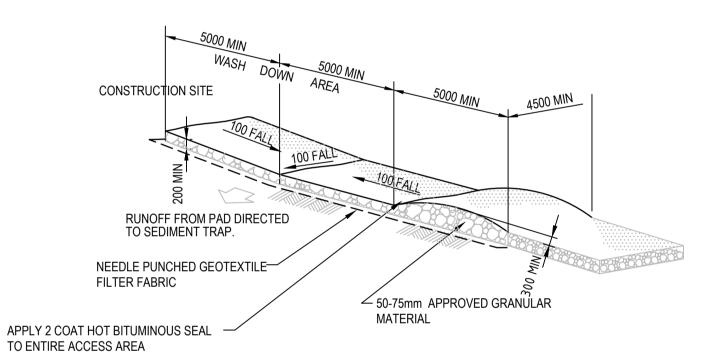
22.02.19

05.06.18

Date

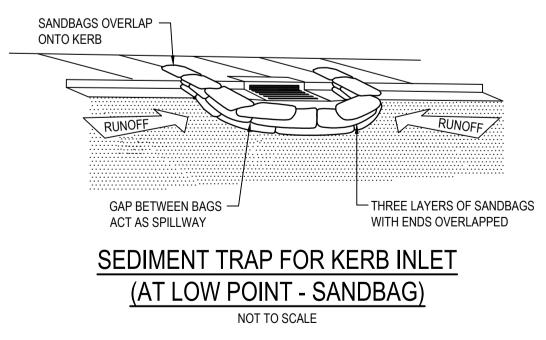


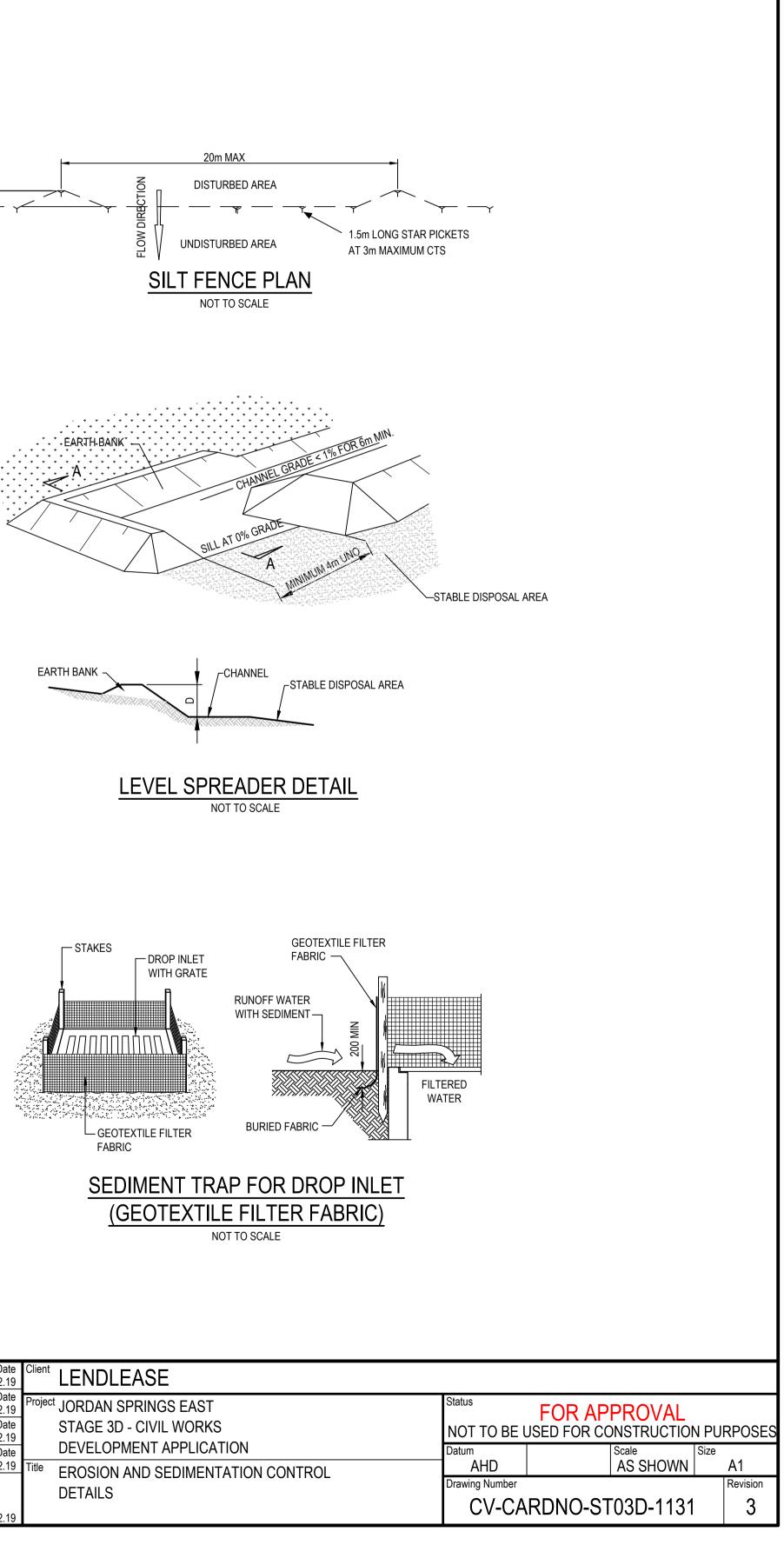


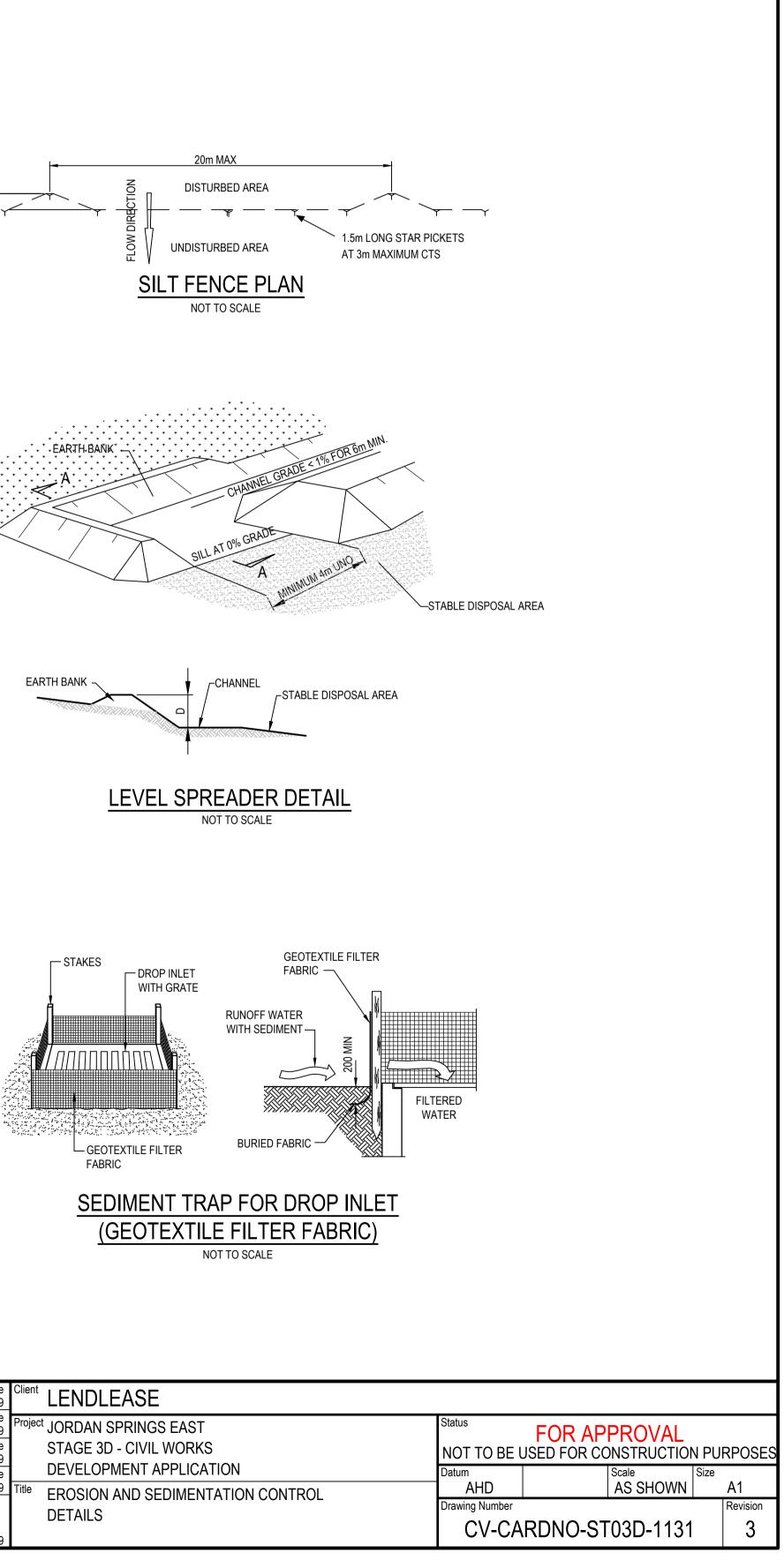


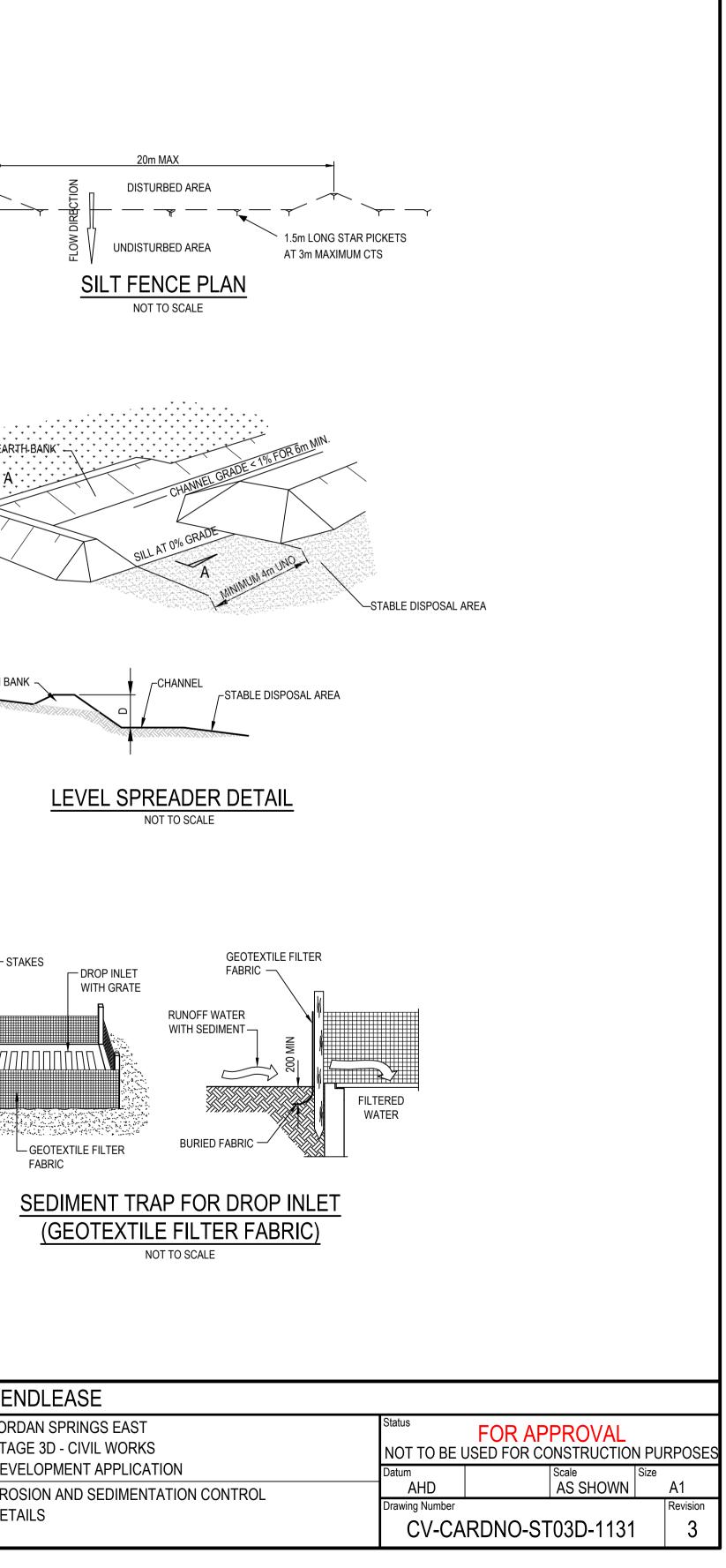












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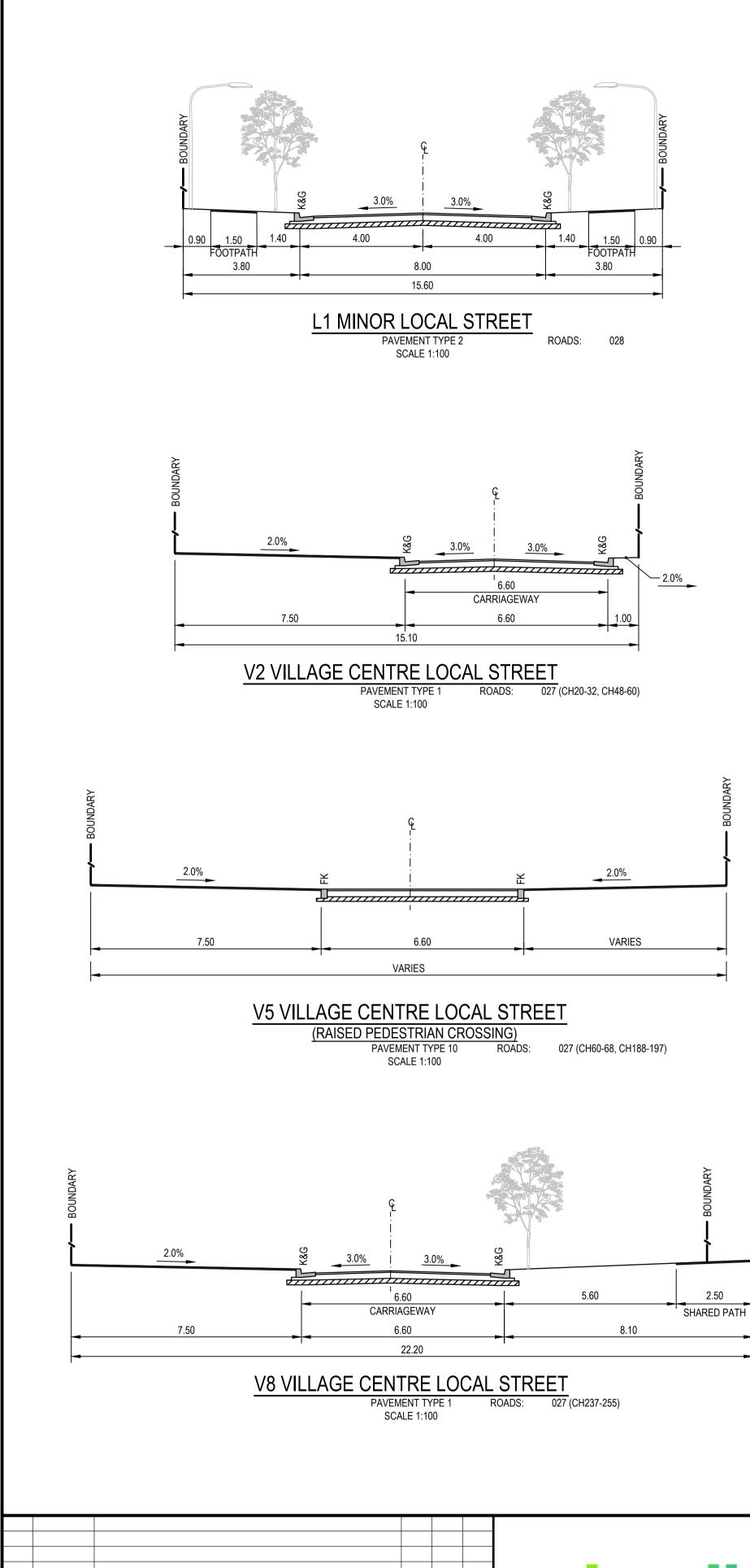


Parramatta, NSW 2150

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Drawn MCD	Date 22.02.19	Client LENDLEASE
Checked	Date 22.02.19	Project JORDAN SPRINGS
Designed DAC	Date 22.02.19	STAGE 3D - CIVIL
Verified ARM	Date 22.02.19	
Approved		DETAILS
ARM	22.02.19	



lendlease

01.08.19

30.07.19

22.02.19

14.06.18

05.06.18

Date

REISSUED FOR DEVELOPMENT APPLICATION APPROVAL

REISSUED FOR DEVELOPMENT APPLICATION APPROVAL

Description

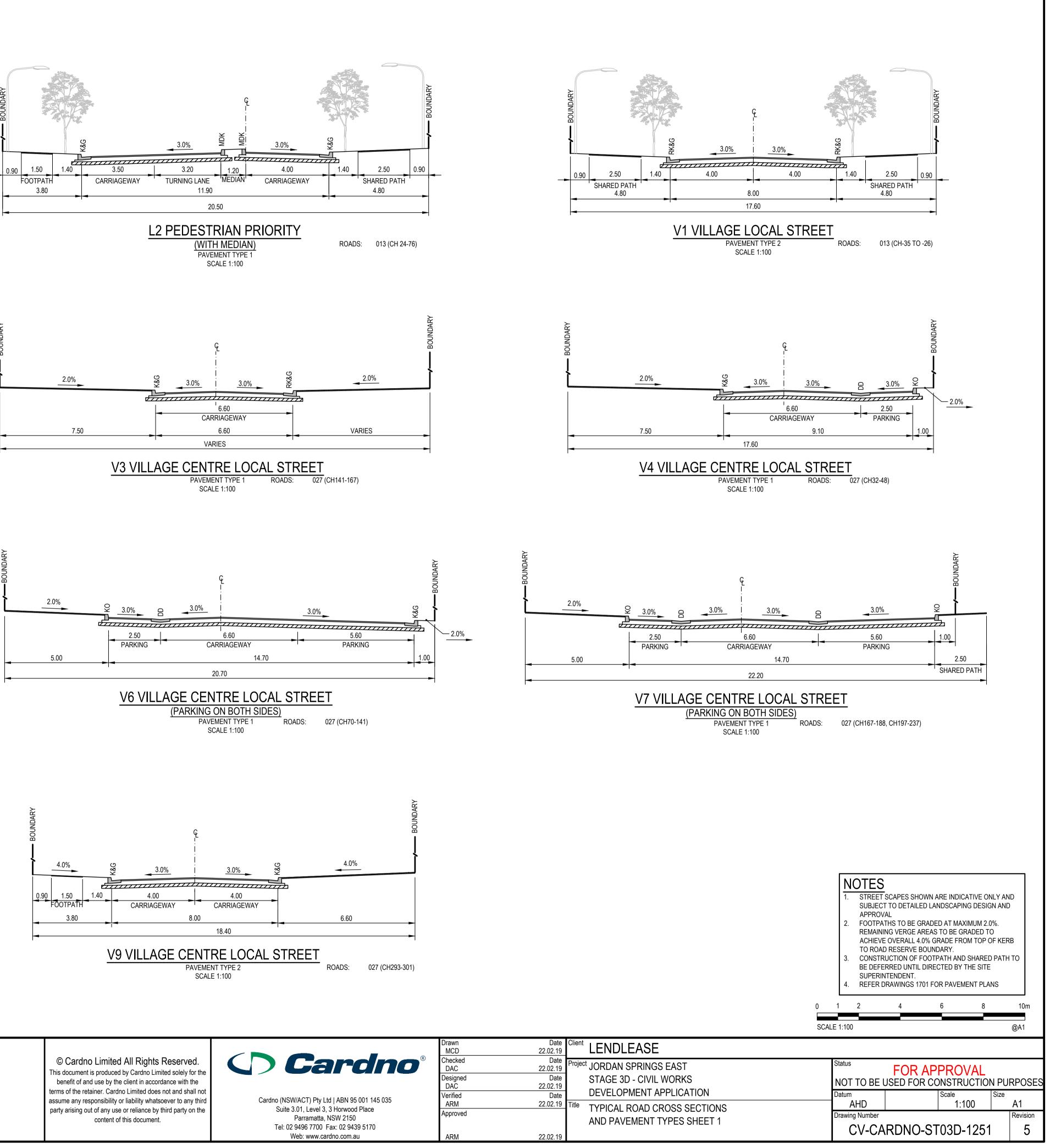
ISSUED FOR DEVELOPMENT APPLICATION APPROVAL

REISSUED FOR DRAFT DEVELOPMENT APPLICATION

ISSUED FOR DRAFT DEVELOPMENT APPLICATION

DAC ARM ARM

Des. Verif. Appd.



Drawn MCD	Date 22.02.19	Client LENDLEASE
Checked DAC	Date 22.02.19	Project JORDAN SPRINGS
Designed DAC	Date 22.02.19	STAGE 3D - CIVIL
Verified ARM	Date 22.02.19	
Approved		AND PAVEMENT T
ARM	22.02.19	

PAVEMENT TYPE ' SCALE 1:10

PAVEMENT 1 DESIGN						
DESIGN SUBGRADE	CBR 3%	CBR 5%				
WEARING SURFACE	50mm AC10	50mm AC10				
SINGLE COAT FLUSH SEAL	7mm	7mm				
BASECOURSE	150mm	150mm				
SUBBASE	410mm	290mm				
TOTAL THICKNESS	610mm	490mm				

50mm AC10 WEARING COURSE (2x25mm AC10) FINAL 25mm LAYER TO BE CONSTRUCTED AFTER 80% OF HOUSING CONSTRUCTION COMPLETED

7mm SINGLE COAT FLUSH SEAL BASE COURSE DGB20 COMPACTED TO MINIMUM MODIFIED DENSITY RATIO OF 98%

SUB BASE DGS40 COMPACTED TO MINIMUM MODIFIED DENSITY RATIO OF 95%

COMPACTED SUBGRADE TO MINIMUM DENSITY RATIO OF 100%

ASSUMED CBR: REFER BELOW TABLE ASSUMED ESA: 2x10⁶

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PAVEMENT TYPE 5

(CONCRETE MAINTENANCE AND HARDSTAND)

SCALE 1:10

PROVIDE TCJ AT 4m SPACING.

EVERY THIRD JOINT TO BE DEJ.

REFER DRAWING 1601 FOR

JOINT DETAILS

NOTE

01.08.19 REISSUED FOR DEVELOPMENT APPLICATION APPROVAL

05.06.18 ISSUED FOR DRAFT DEVELOPMENT APPLICATION

REISSUED FOR DEVELOPMENT APPLICATION APPROVAL

ISSUED FOR DEVELOPMENT APPLICATION APPROVAL

Description

REISSUED FOR DRAFT DEVELOPMENT APPLICATION

2 x SL82 MESH (50mm TOP & BOTTOM COVER) 225mm 32MPa CONCRETE

150mm DGB20

COMPACTED SUBGRADE TO 100% STANDARD MAXIMUM DRY DENSITY

ASSUMED CBR: 3%

lendlease

DAC ARM ARM

Des. Verif. Appd.

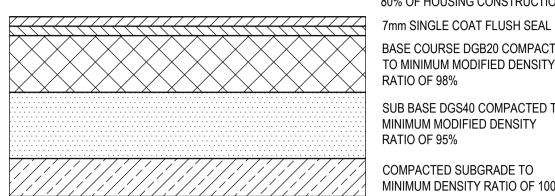
Document Set ID: 8942387 Version: 1, Version Date: 27/11/2019

30.07.19

22.02.19

14.06.18

Date



PAVEMENT TYPE 2 SCALE 1:10

PAVEMENT 2 DESIGN						
DESIGN SUBGRADE	CBR 3%	CBR 5%				
WEARING SURFACE	50mm AC10	50mm AC10				
SINGLE COAT FLUSH SEAL	7mm	7mm				
BASECOURSE	150mm	150mm				
SUBBASE	275mm	175mm				
TOTAL THICKNESS	475mm	375mm				

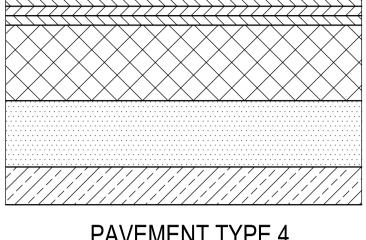
50mm AC10 WEARING COURSE (2x25mm AC10) FINAL 25mm LAYER TO BE CONSTRUCTED AFTER 80% OF HOUSING CONSTRUCTION COMPLETED

BASE COURSE DGB20 COMPACTED TO MINIMUM MODIFIED DENSITY RATIO OF 98%

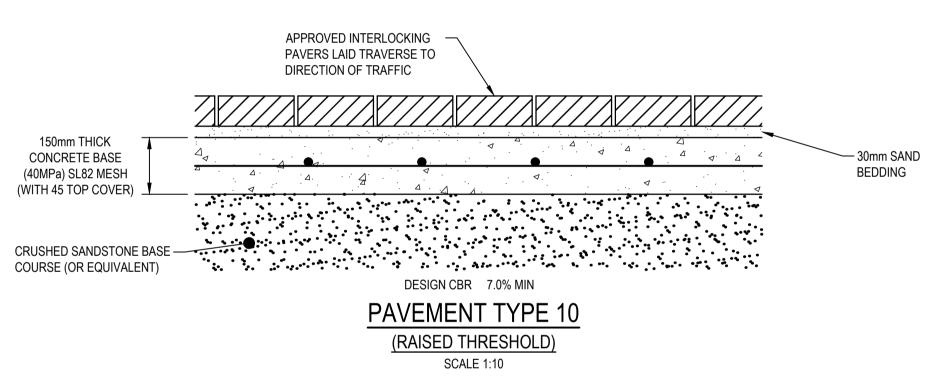
SUB BASE DGS40 COMPACTED TO MINIMUM MODIFIED DENSITY RATIO OF 95%

COMPACTED SUBGRADE TO MINIMUM DENSITY RATIO OF 100%

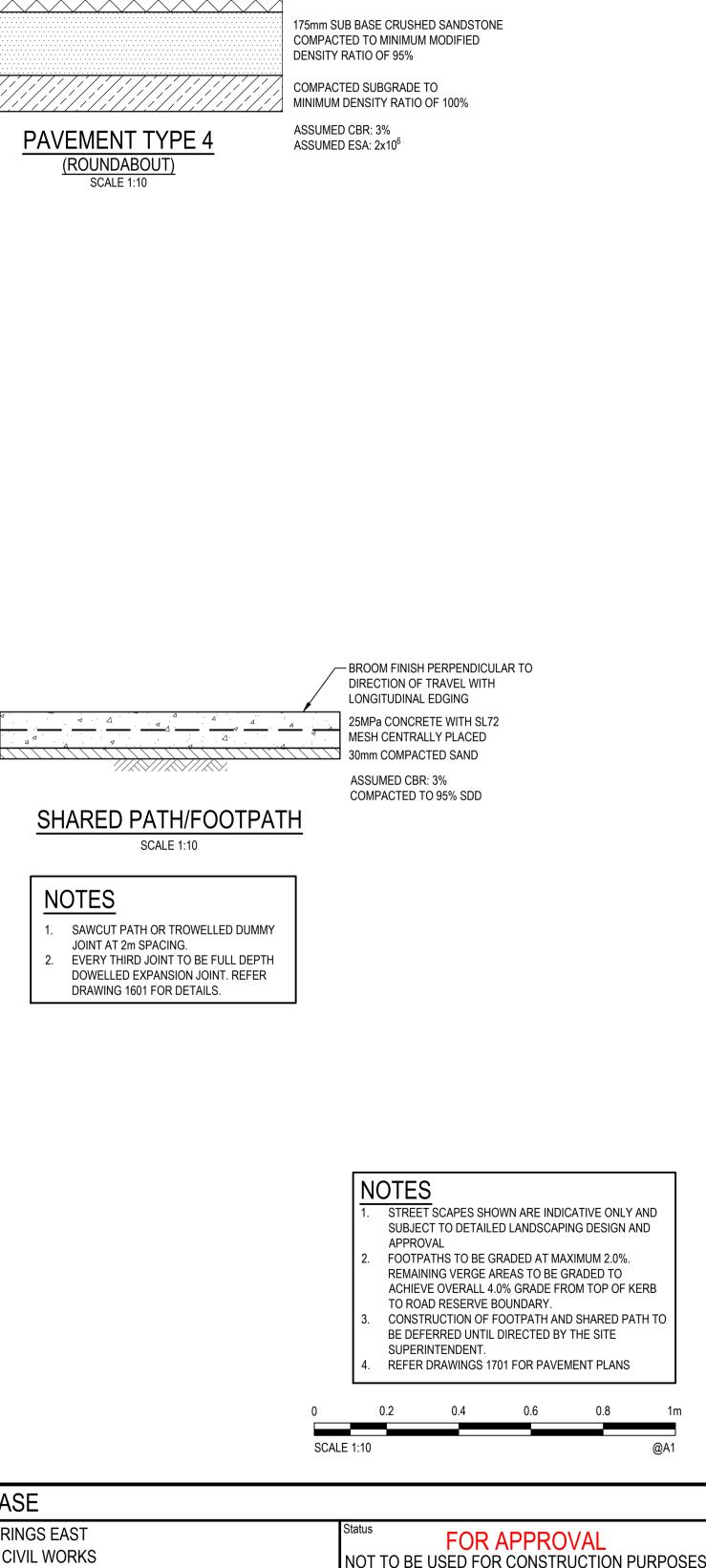
ASSUMED CBR: REFER TABLE BELOW ASSUMED ESA: 5x10⁴







Date Client LENDLEASE MCD Checked DAC 22.02.19 **Cardno**[®] © Cardno Limited All Rights Reserved. Date ^{Project} JORDAN SPRING 22.02.19 This document is produced by Cardno Limited solely for the Designed DAC Date STAGE 3D - CIVIL benefit of and use by the client in accordance with the 22.02.19 terms of the retainer. Cardno Limited does not and shall no DEVELOPMENT / Date Verified assume any responsibility or liability whatsoever to any third Cardno (NSW/ACT) Pty Ltd | ABN 95 001 145 035 ARM 22.02.19 Title TYPICAL ROAD (Suite 3.01, Level 3, 3 Horwood Place party arising out of any use or reliance by third party on the Approved Parramatta, NSW 2150 content of this document. AND PAVEMENT Tel: 02 9496 7700 Fax: 02 9439 5170 Web: www.cardno.com.au 22.02.19 ARM



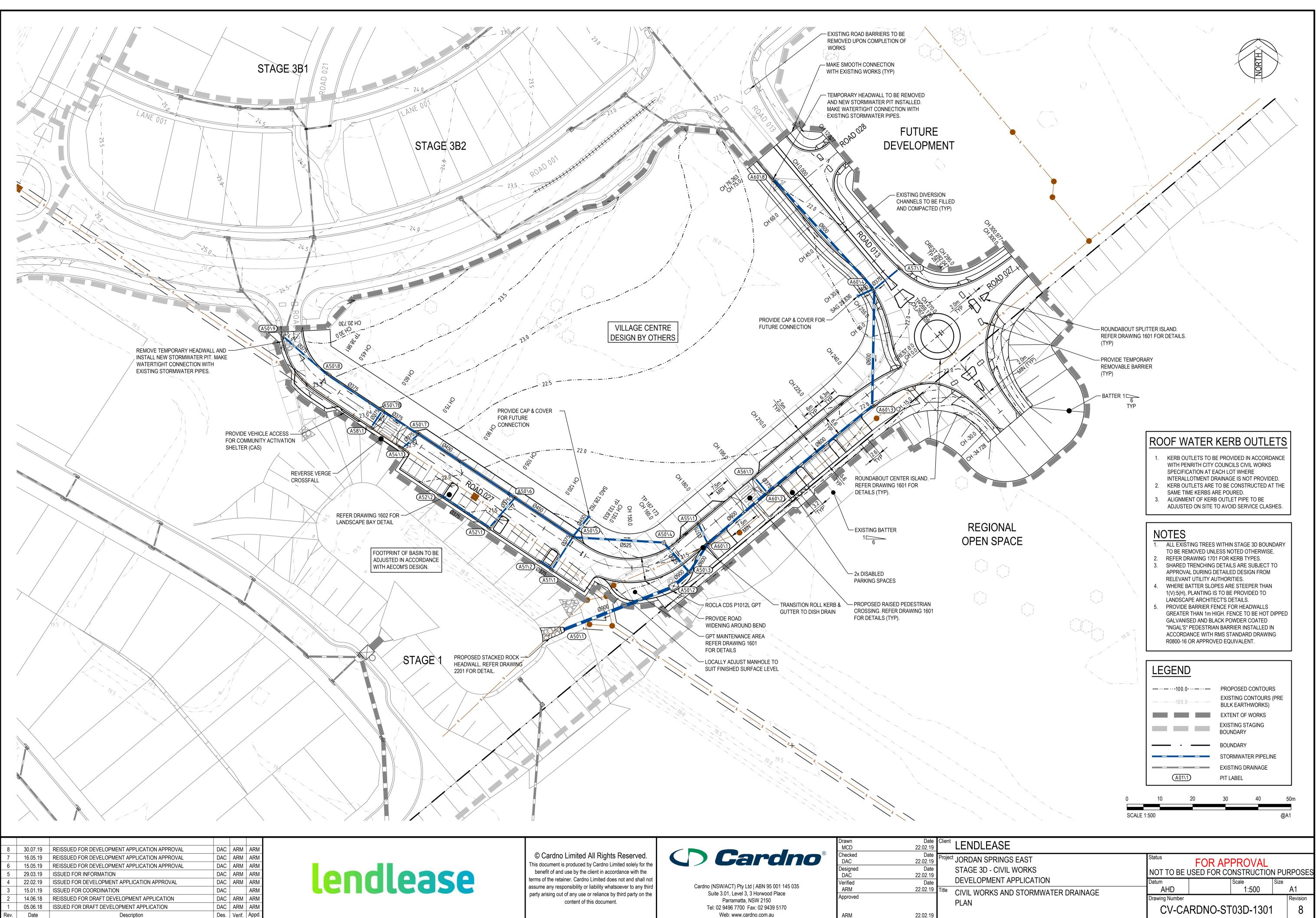
75mm POLYMODIFIED AC14

WEARING COURSE (3x25mm AC14)

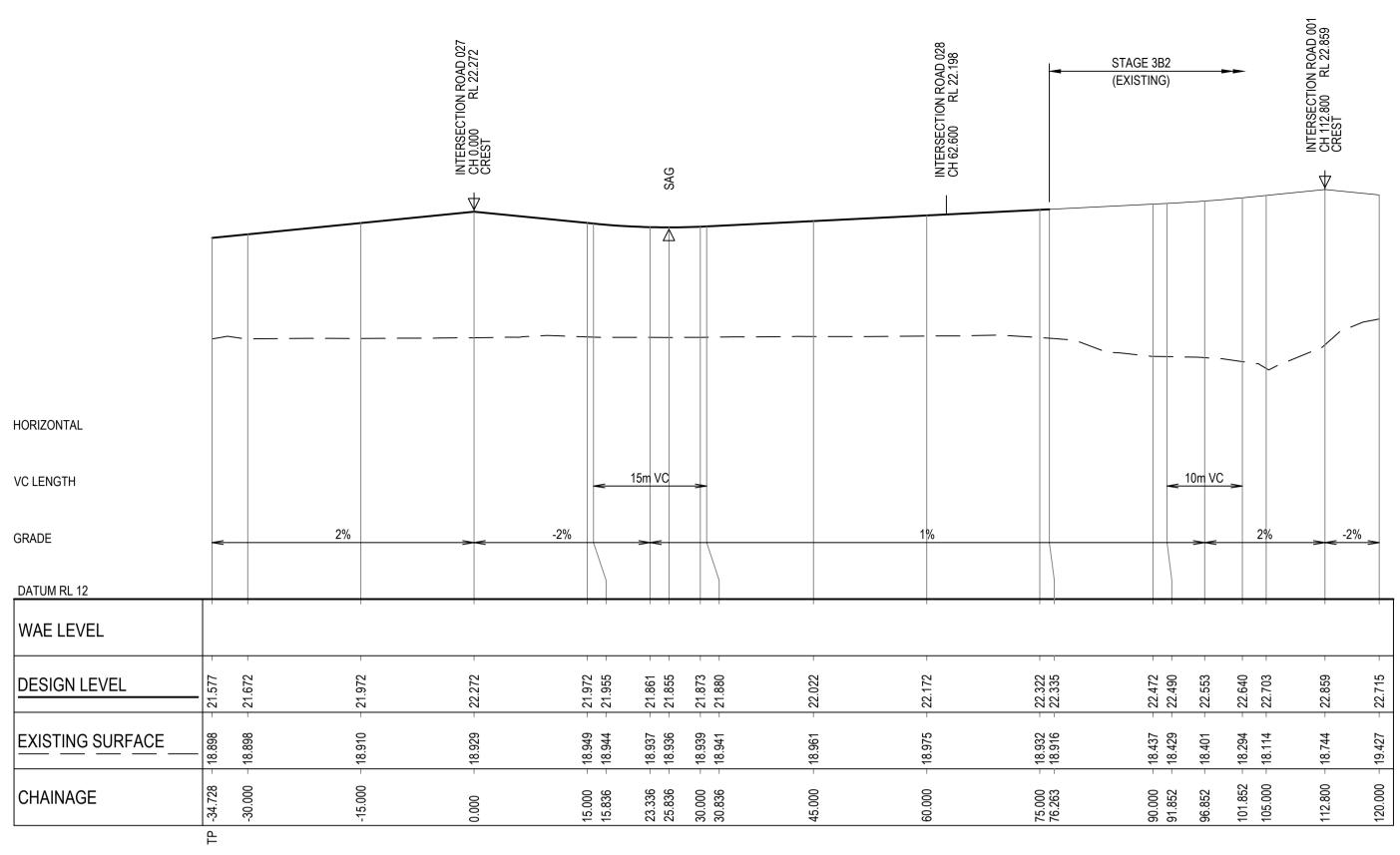
200mm BASE COURSE AC28 DEEP LIFT

7mm SINGLE COAT FLUSH SEAL

	Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURI					
APPLICATION	Datum		Scale	Size		
CROSS SECTIONS	AHD		1:10		A1	
TYPES SHEET 2	Drawing Number				Revision	
TTFLO SHLLTZ	CV-CA	RDNO-ST	03D-1252)	5	

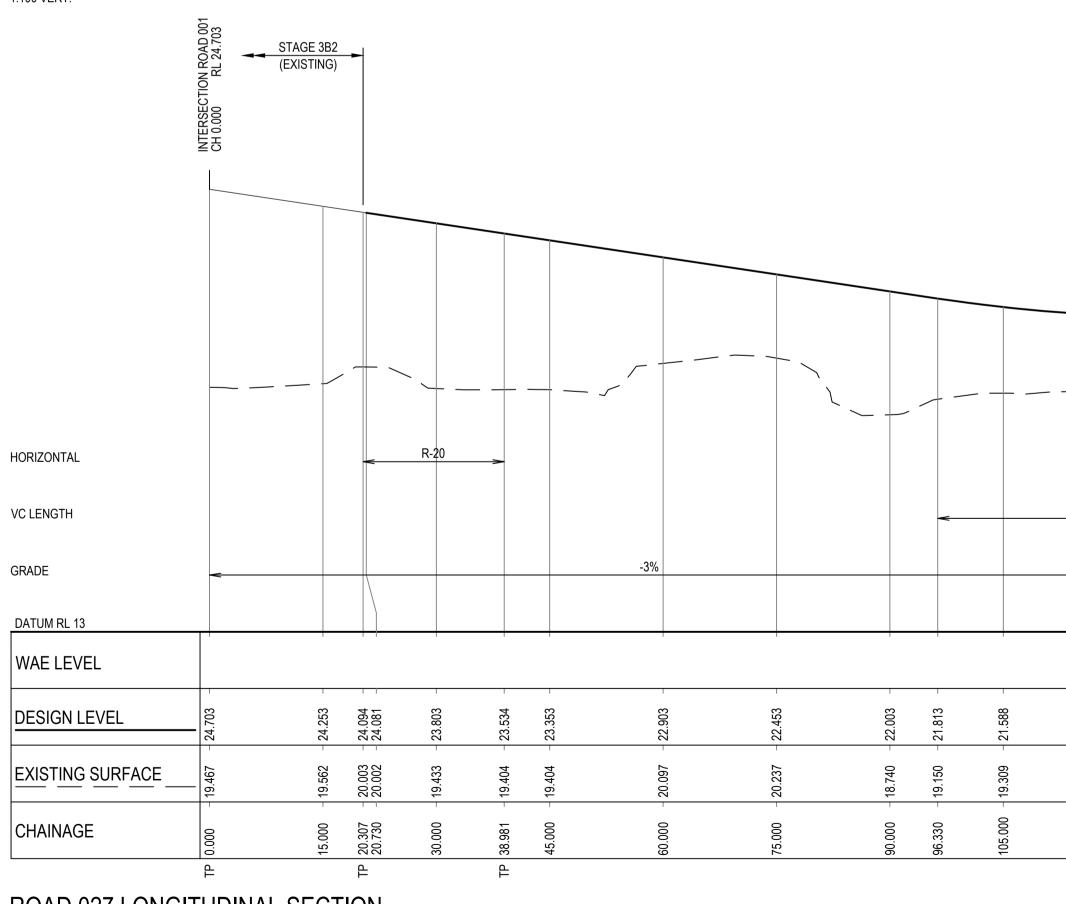


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7	16.05.19	REISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM
6	15.05.19	REISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM
5	29.03.19	ISSUED FOR INFORMATION	DAC	ARM	ARM
4	22.02.19	ISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM
3	15.01.19	ISSUED FOR COORDINATION	DAC		ARM
2	14.06.18	REISSUED FOR DRAFT DEVELOPMENT APPLICATION	DAC	ARM	ARM
1	05.06.18	ISSUED FOR DRAFT DEVELOPMENT APPLICATION	DAC	ARM	ARM
Rev.	Date	Description	Des.	Verif.	Appd.



ROAD 013 LONGITUDINAL SECTION

1:500 HORI. 1:100 VERT.



ROAD 027 LONGITUDINAL SECTION 1:500 HORI. 1:100 VERT.

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XREF's: X-LS-ROAD-0131; X-LS-ROAD-0271; X-LS-ROAD-0281; Xref-89914020-Client Logos CAD File: N:\Parramatta\Projects\899\FY14\020_CENTRAL PRECINCT, ADI ST MARYS\Drawi		1:500 HO 1:100 VE		UDINAL	3201				
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XREF CAD I	Rev.	Date		Description			DAC Des.	Verif.	Appd.
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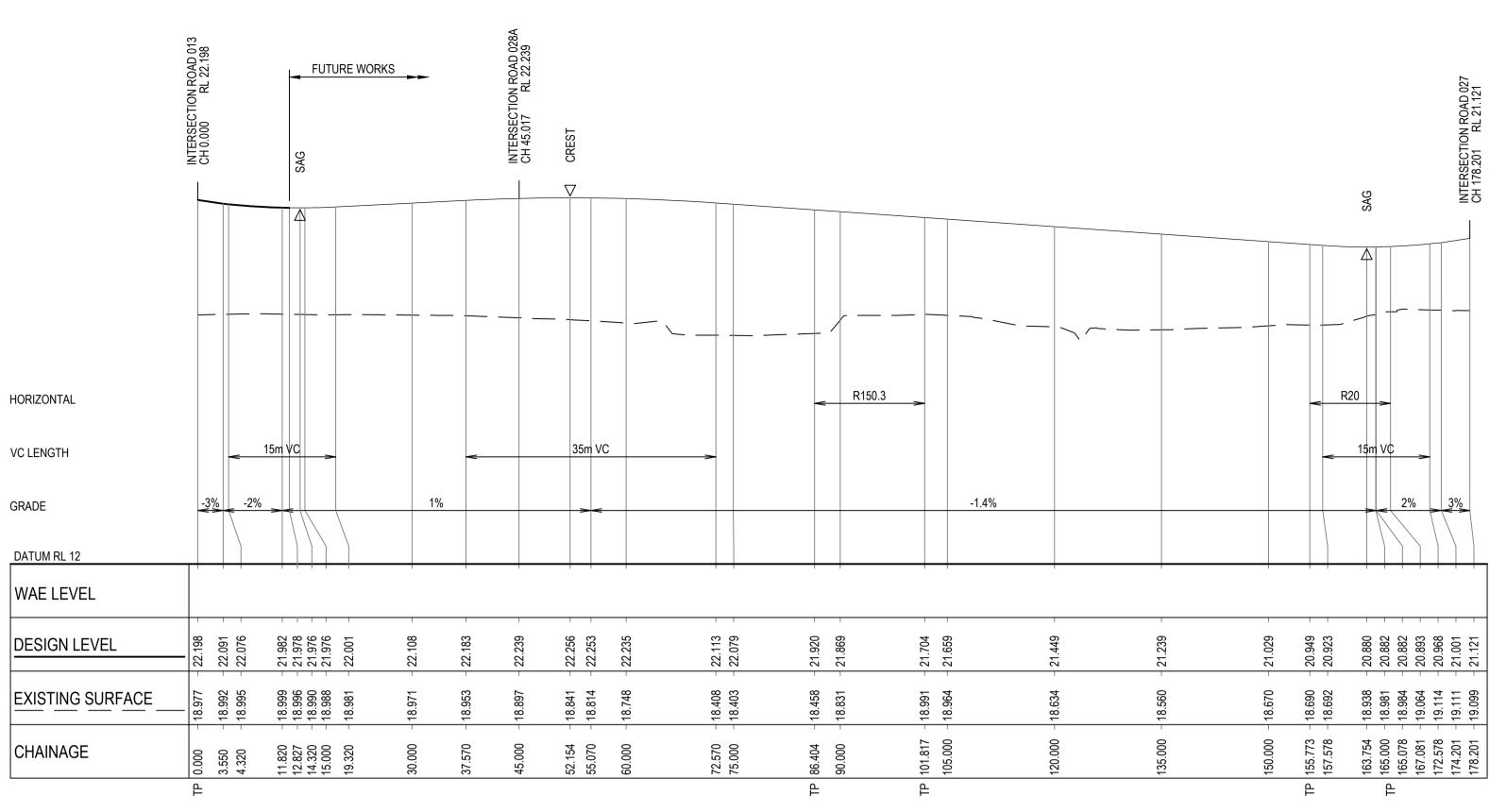
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		+	FUTURE WORKS
	SAS	CH 267.859 RL 22.272 CH 267.859 RL 22.272 CH 267.859 RL 22.272	INTERSECTION ROAD 028A CH 312.777 RL 22.158
40m VC			-0.7%
- 21.398 - 21.362	21.327 21.329 21.345 21.345 21.345 21.353 21.569 21.569 21.569 21.569 21.569 21.569 21.569 21.569	21.974 22.079 22.079 22.184 22.251 22.279 22.312 22.312 22.312 22.312 22.312 22.312 22.312 22.312	22.241 22.143 22.143 22.143 22.138 22.138 22.138
19.352 - 19.349 -	19.363 19.363 19.363 19.363 19.386 19.388 19.388 19.083 19.083 19.083 19.083 19.083 19.083 19.083 19.083	19.028 19.028 19.028 19.028 18.910 18.929 18.942 18.943 18.943 18.943 18.943 18.943 18.943 18.943 18.943 18.943 18.943 18.943 18.943 18.943 18.944 18.944 18.944 18.944	18.910 18.916 18.915 18.965 18.915 18.965 18.915
116.330 - 120.000 -	128.762 - 133.833 - 135.000 - 136.330 - 150.000 - 167.173 - 167.173 - 195.000 - 195.000 - 210.000 - 210.000 -	225.000 - 225.000 - 240.000 - 255.000 - 264.547 - 264.547 - 269.178 - 281.341 - 282.047 - 285.000 - 285.000 -	330.000 - 300.977 - 300.977 - 333.0000 - 335.000 - 335.000 - 355.0000 - 355.0000 - 355.0000 - 355.0000 - 355.0000 - 355.0000 -
			10m 0 10 20 30 40 50m A1 SCALE 1:500 @A1
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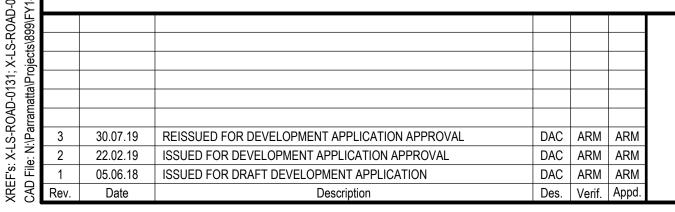
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				FUTU				
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			 		-Ø.7%			
21.974 -	22.079 - 22.184 -	22.251 - 22.272 - 22.283 - 22.283 -	22.312 - 22.312 - 22.310 -	22.251 - 22.248 - 22.241 -	22.143 -	22.038	21.933 - 21.898 -	
19.028	19.020 - 18.876 -	18.910 - 18.929 - 18.937 - 18.942 -	18.943 - 18.941 - 18.934 -	18.908 - 18.911 - 18.919 -	- 18.910	18.759 -	18.915 - 18.965 -	
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225.000	240.000	264.547 267.859 269.178 270.000	281.341 282.047 285.000	299.547 300.000 300.977	315.000	330.000	345.000 350.000	
	0 1	₽ 2 4	₽ 6	8 10m	0 10	20	30 40	50m
	SCALE	1:100		@A1	SCALE 1:500			@A1
Drawn MCD	Date Client LE	NDLEASE						
Checked DAC	Date 22.02.19 Project JOI	RDAN SPRINGS EA			Status	FOR	APPROVAL	
Designed DAC	22 02 19	AGE 3D - CIVIL WOF VELOPMENT APPLI			NOT TO B	E USED FOF	CONSTRUCTIO	N PURPOSES
Verified ARM Approved		AD LONGITUDINAL			AHD		AS SHOWN	A1
	22.02.19	EET 1 ROAD 013 &	027		Drawing Numbe		-ST03D-135 ⁻	Revision 1 3
ARM	22.02.19							



ROAD 028 LONGITUDINAL SECTION

1:500 HORI. 1:100 VERT.





Document Set ID: 8942387 Version: 1, Version Date: 27/11/2019

X-LS-ROAD-0281; Xref-89914020-Clien __CENTRAL PRECINCT, ADI ST MARY:

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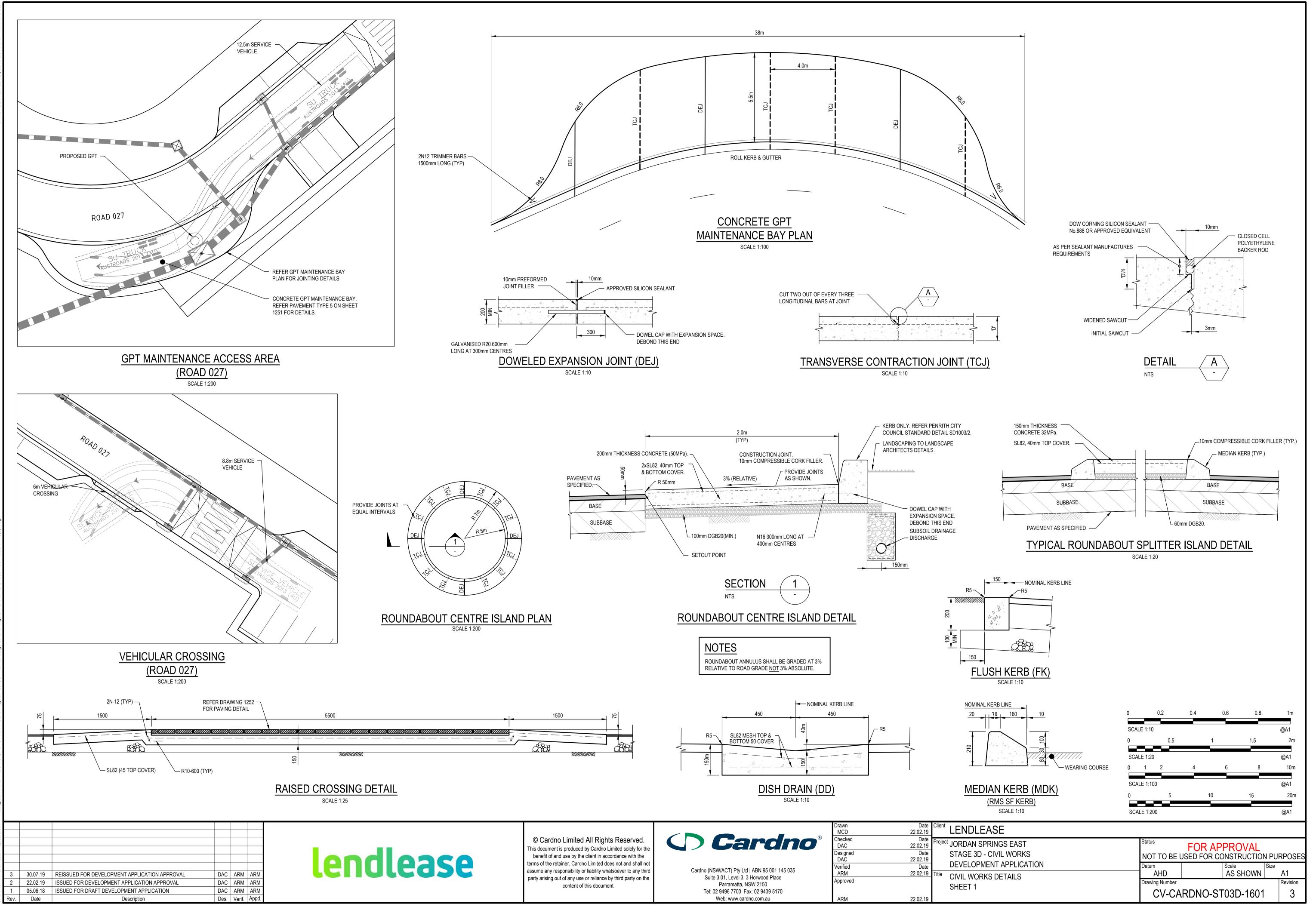
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MCD	22.02.19	LENDLEASE
Checked DAC	Date 22.02.19	Project JORDAN SPRINGS EA
Designed DAC	Date 22.02.19	STAGE 3D - CIVIL WO
Verified	Date	DEVELOPMENT APPL
ARM	22.02.19	Title ROAD LONGITUDINAL
Approved		SHEET 2 ROAD 028
ARM	22.02.19	

S EAST _ WORKS	Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSE					
APPLICATION DINAL SECTIONS	Datum AHD		Scale AS SHOWN	Size	A1	
28	Drawing Number	RDNO-ST			Revision 3	

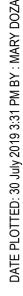
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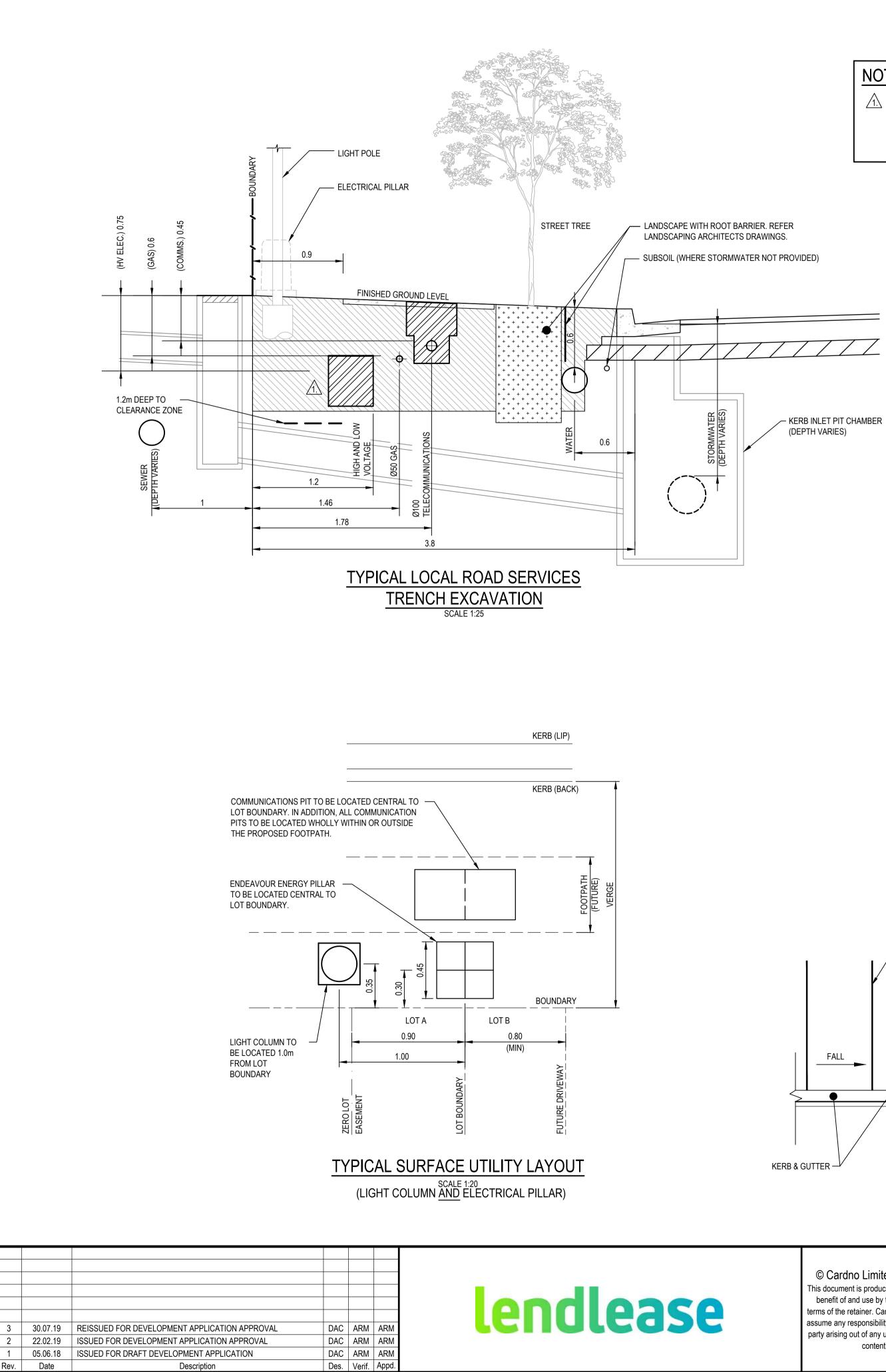
SCALE 1:500

10m



t Logos; XR-89914020-2' PRECINCT. ADI ST MAR



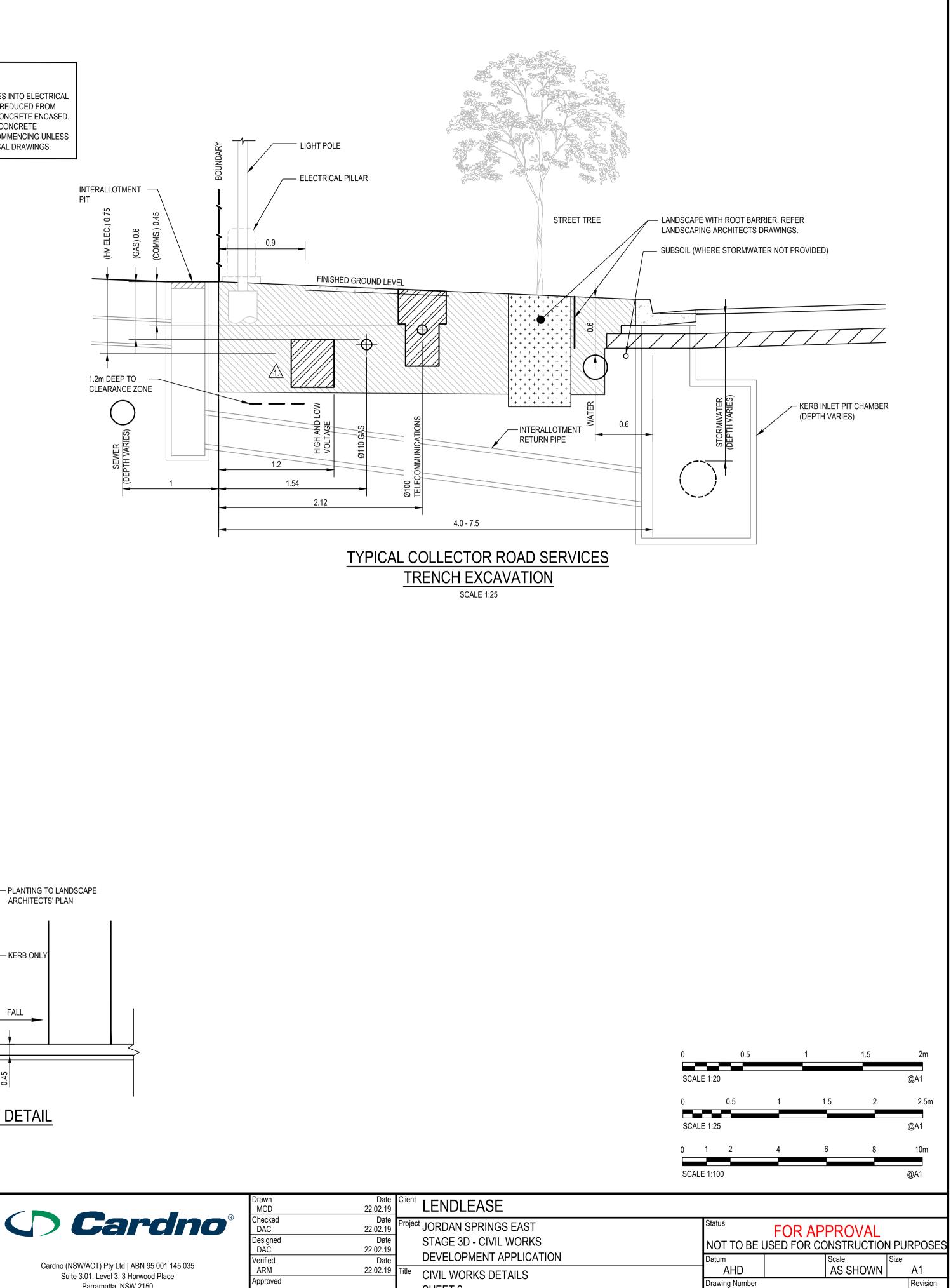


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-8991 ADI Ϋ́

NOTE

WHERE STORMWATER ENCRUACINES INTO LELOTING CLEARANCE ZONE, COVER MAY BE REDUCED FROM WHERE STORMWATER ENCROACHES INTO ELECTRICAL 750mm TO 500mm AND CONDUITS CONCRETE ENCASED. SUPERINTENDENT IS TO APPROVE CONCRETE ENCASEMENT PRIOR TO WORKS COMMENCING UNLESS SPECIFIED ON CERTIFIED ELECTRICAL DRAWINGS.



- LINEMARKING (TYP) ---- PLANTING TO LANDSCAPE ARCHITECTS' PLAN - KERB ONLY 0.45 FALL LANDSCAPE BAY DETAIL SCALE 1:100

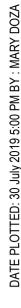
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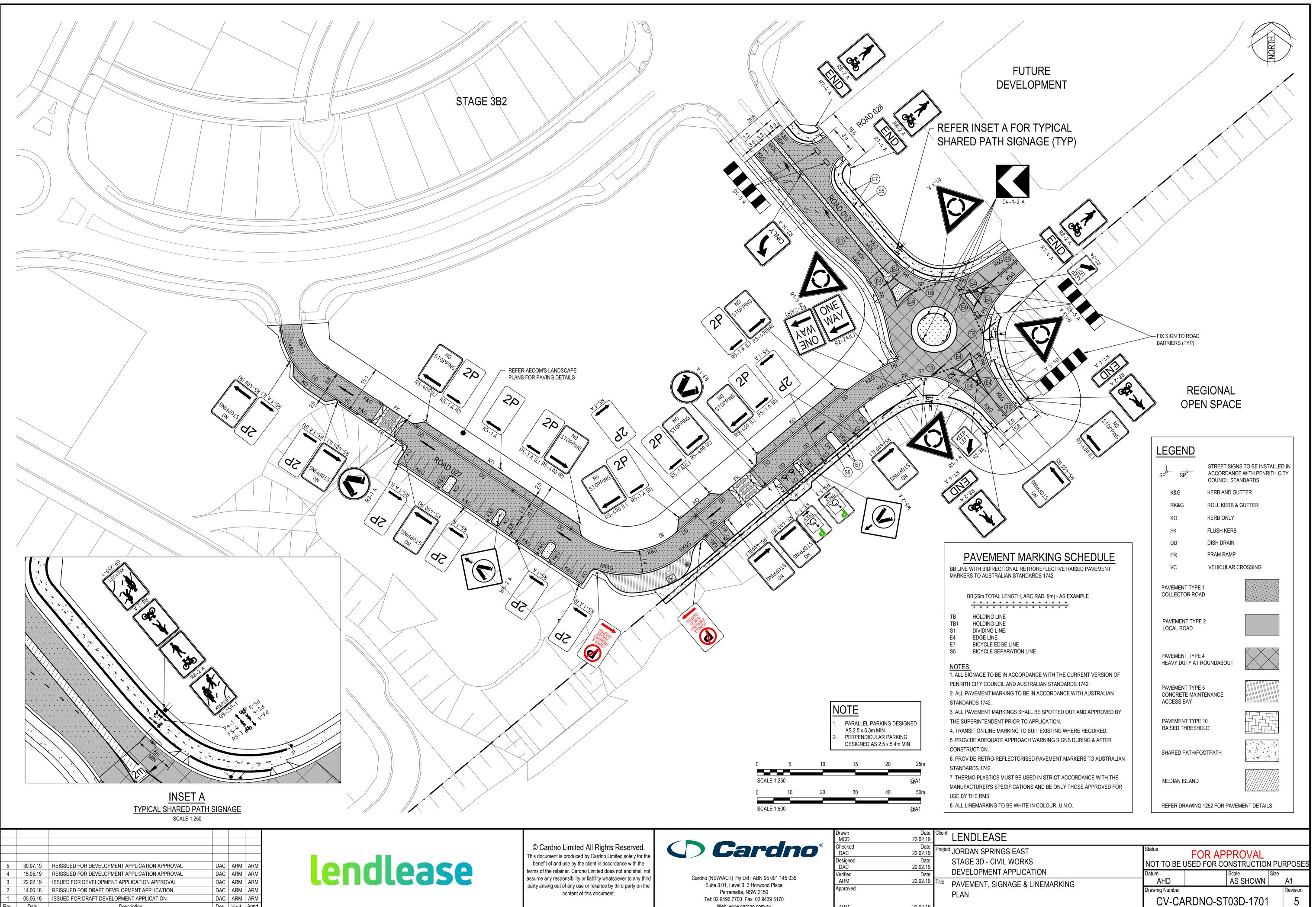


Drawn MCD	Date 22.02.19	Client LENDLEASE
Checked DAC	Date 22.02.19	Project JORDAN SPRING
Designed DAC	Date 22.02.19	STAGE 3D - CIVIL
Verified	Date	DEVELOPMENT A
ARM Approved	22.02.19	Title CIVIL WORKS DE SHEET 2
ARM	22.02.19	

CV-CARDNO-ST03D-1602

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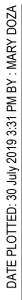


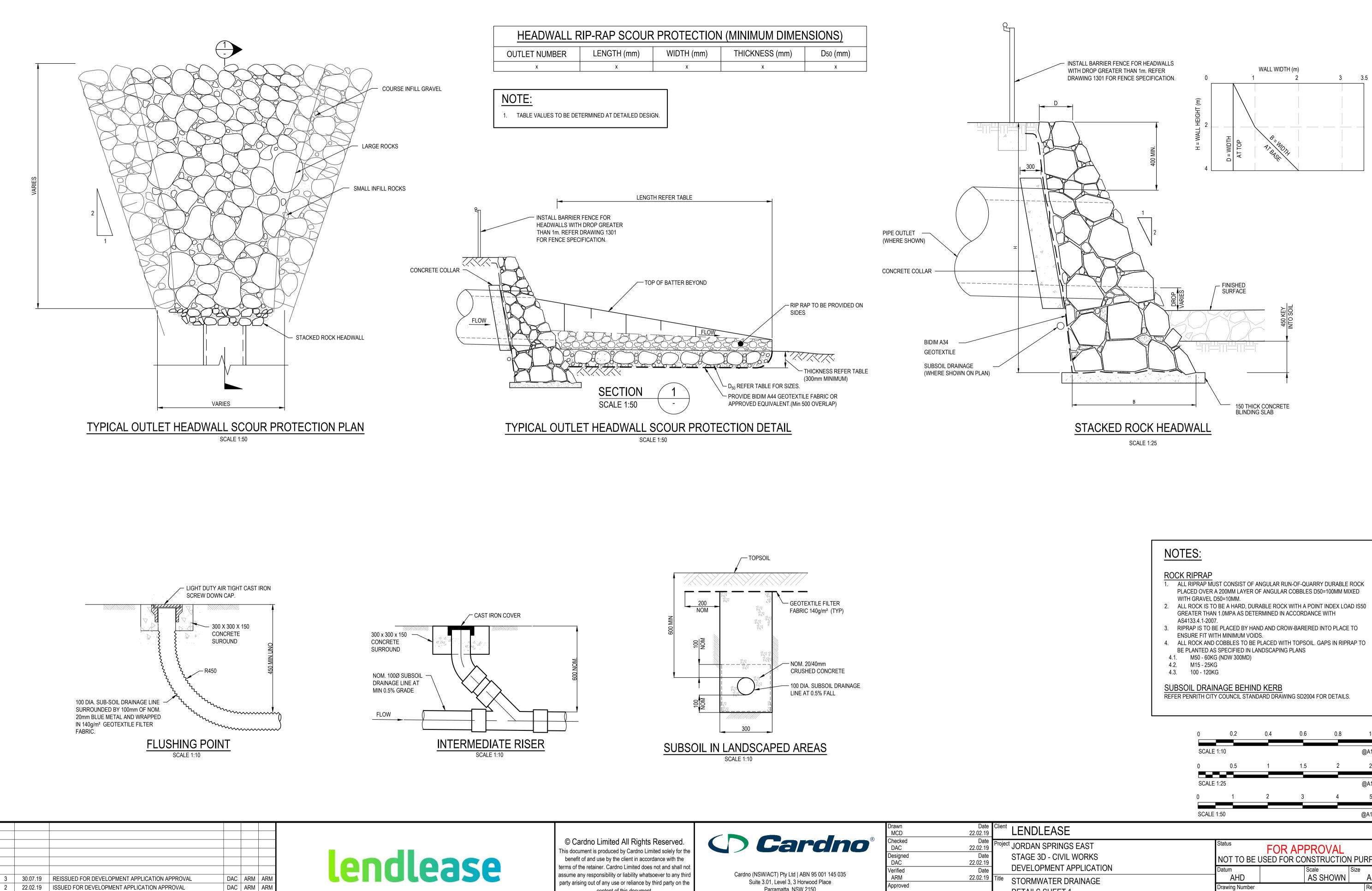
5	30.07.19	REISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM
4	15.05.19	REISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM
3	22.02.19	ISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM
2	14.06.18	REISSUED FOR DRAFT DEVELOPMENT APPLICATION	DAC	ARM	ARM
1	05.06.18	ISSUED FOR DRAFT DEVELOPMENT APPLICATION	DAC	ARM	ARM
Rev.	Date	Description	Des.	Verif.	Appd.

XREF CAD

Web: www.cardno.com.au ARM

22.02.19	
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22.02.18	^{Title} PAVEMENT, SIGNA
-	PLAN
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Document Set ID: 8942387 Version: 1, Version Date: 27/11/2019

05.06.18 Date

ISSUED FOR DRAFT DEVELOPMENT APPLICATION

Description

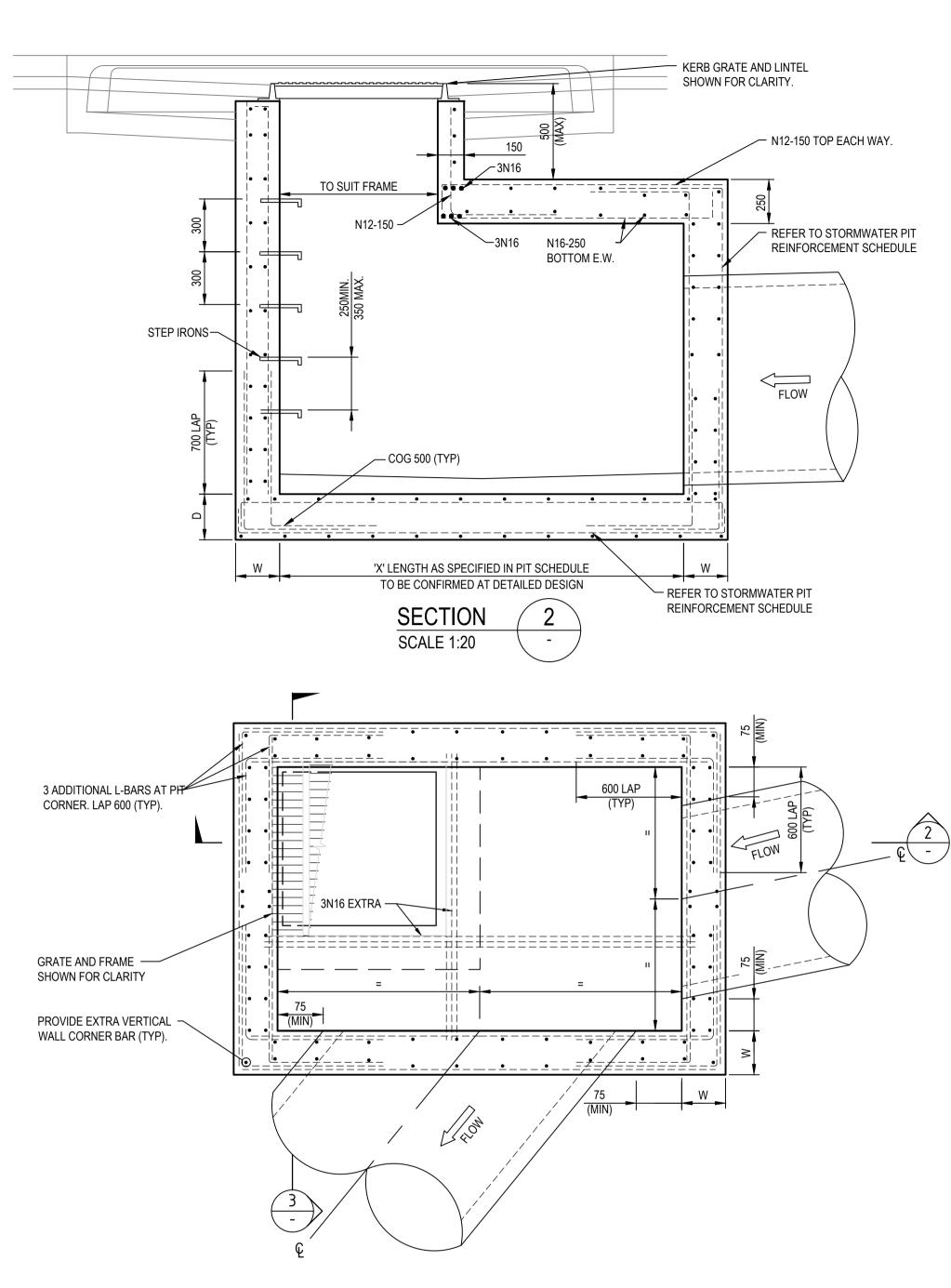
DAC ARM ARM

Des. Verif. Appd.

		Drawn MCD	Date 22.02.19	Client LENDLEASE		
© Cardno Limited All Rights Reserved. This document is produced by Cardno Limited solely for the benefit of and use by the client in accordance with the	Cardno [®]	Checked DAC Designed	Date 22.02.19 Date 22.02.19	^{Project} JORDAN SPRINGS EAST STAGE 3D - CIVIL WORKS	Status FOR APPROVA NOT TO BE USED FOR CONSTRUCT	
terms of the retainer. Cardno Limited does not and shall not assume any responsibility or liability whatsoever to any third party arising out of any use or reliance by third party on the		Verified ARM	Date 22.02.19	Title STORMWATER DRAINAGE	Datum Scale AHD AS SHOW	
content of this document.	Parramatta, NSW 2150 Tel: 02 9496 7700 Fax: 02 9439 5170	Approved ARM	22.02.19	DETAILS SHEET 1	Drawing Number CV-CARDNO-ST03D-22	01 Revision

- 1. ALL RIPRAP MUST CONSIST OF ANGULAR RUN-OF-QUARRY DURABLE ROCK PLACED OVER A 200MM LAYER OF ANGULAR COBBLES D50=100MM MIXED

	0	0.2	0.4	0.6	0.8	1m
	SCALE	1:10				@A1
	0	0.5	1	1.5	2	2.5m
	SCALE	1:25				@A1
	0	1	2	3	4	5m
	SCALE	1:50				@A1
E						
GS EAST		Status	FOF		OVAL	



NON PENRITH CITY COUNCIL STANDARD STORMWATER PIT

SCALE 1:20

IMPORTANT NOTE: PIT STANDARD DETAILS

PENRITH COUNCIL STANDARD GRATED GULLY PITS DETAIL, SD2001 TO BE USED FOR PIT DETAILS WHERE: A. PIT INTERNAL WIDTH IN ANY DIRECTION IS LESS THAN OR EQUAL TO 1200mm, AND

B. PIT DEPTH FROM SETOUT POINT TO INVERT IS LESS THAN OR EQUAL TO 2000mm.

FOR PITS WIDER THAN 1200mm AND/OR DEEPER THAN 2000mm REFER TO THE BELOW TABLE AND DETAILS.

NON PCC STORMWATER PIT REINFORCEMENT SCHEDULE								
PIT DIMENSIONS(mm)		n) WALL DIMENSIONS(mm)		VERTICAL	HORIZONTAL	BASE		
LENGTH 'X','Y'	DEPTH 'H'	BASE THICKNESS 'D'	WALL THICKNESS 'W'			EINFORCEMENT REINFORCEMENT REINFORC		1.
1200 <x,y<3300< td=""><td>2000<h<3900< td=""><td>230</td><td>230</td><td>N12-200 E.F.</td><td>N12-200 E.F.</td><td>N12-200 E.F.</td><td>2.</td></h<3900<></td></x,y<3300<>	2000 <h<3900< td=""><td>230</td><td>230</td><td>N12-200 E.F.</td><td>N12-200 E.F.</td><td>N12-200 E.F.</td><td>2.</td></h<3900<>	230	230	N12-200 E.F.	N12-200 E.F.	N12-200 E.F.	2.	
X,Y<1200	H<6000	230	230	N16-250 E.F.	N16-250 E.F.	N16-250 E.F.		

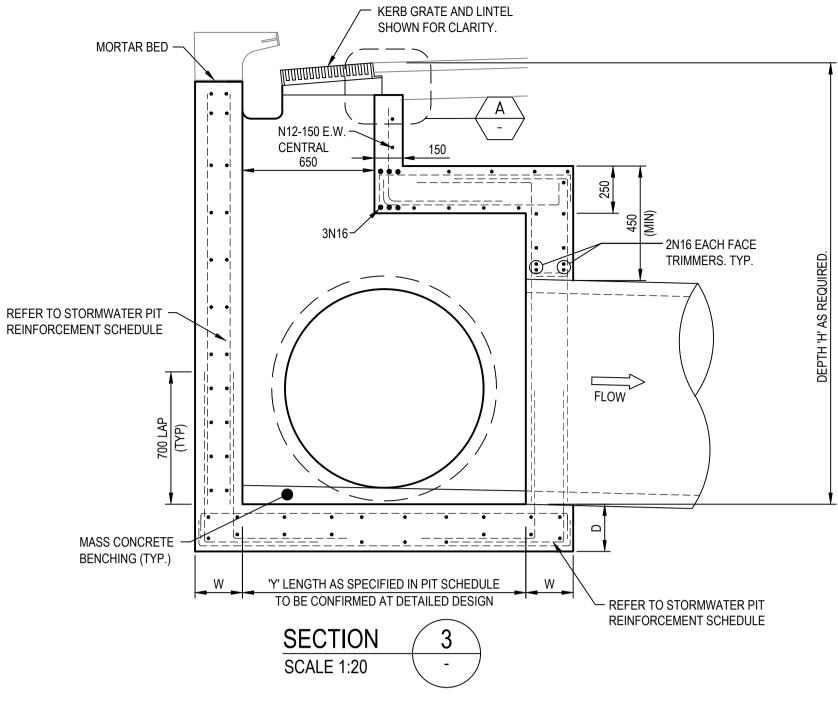
NOTE: PIT REINFORCEMENT TO BE SELECTED USING MAXIMUM PIT DIMENSION

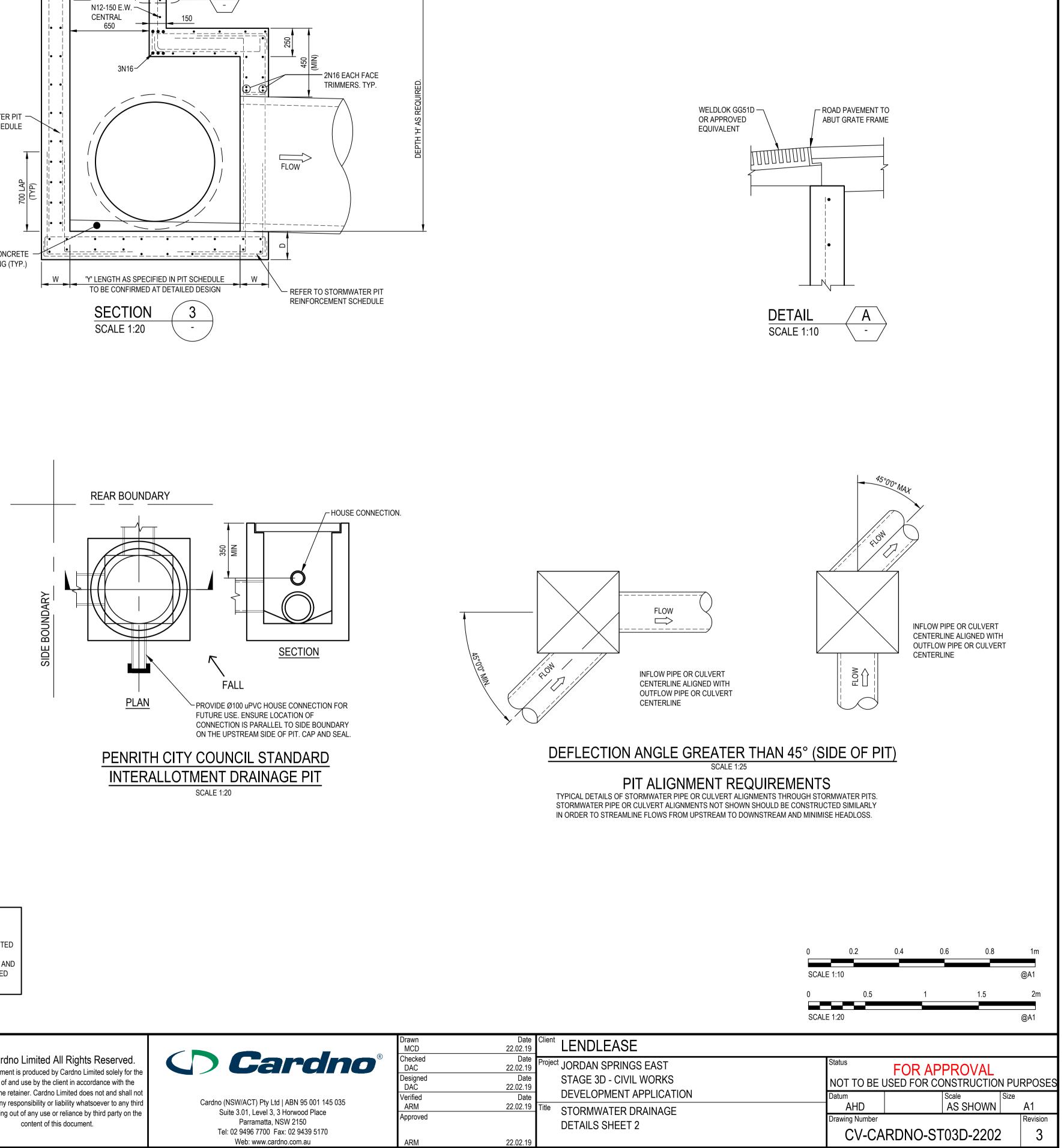
3	30.07.19	REISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM
2	22.02.19	ISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARM	ARM
1	05.06.18	ISSUED FOR DRAFT DEVELOPMENT APPLICATION	DAC	ARM	ARM
Rev.	Date	Description	Des.	Verif.	Appd.

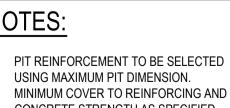


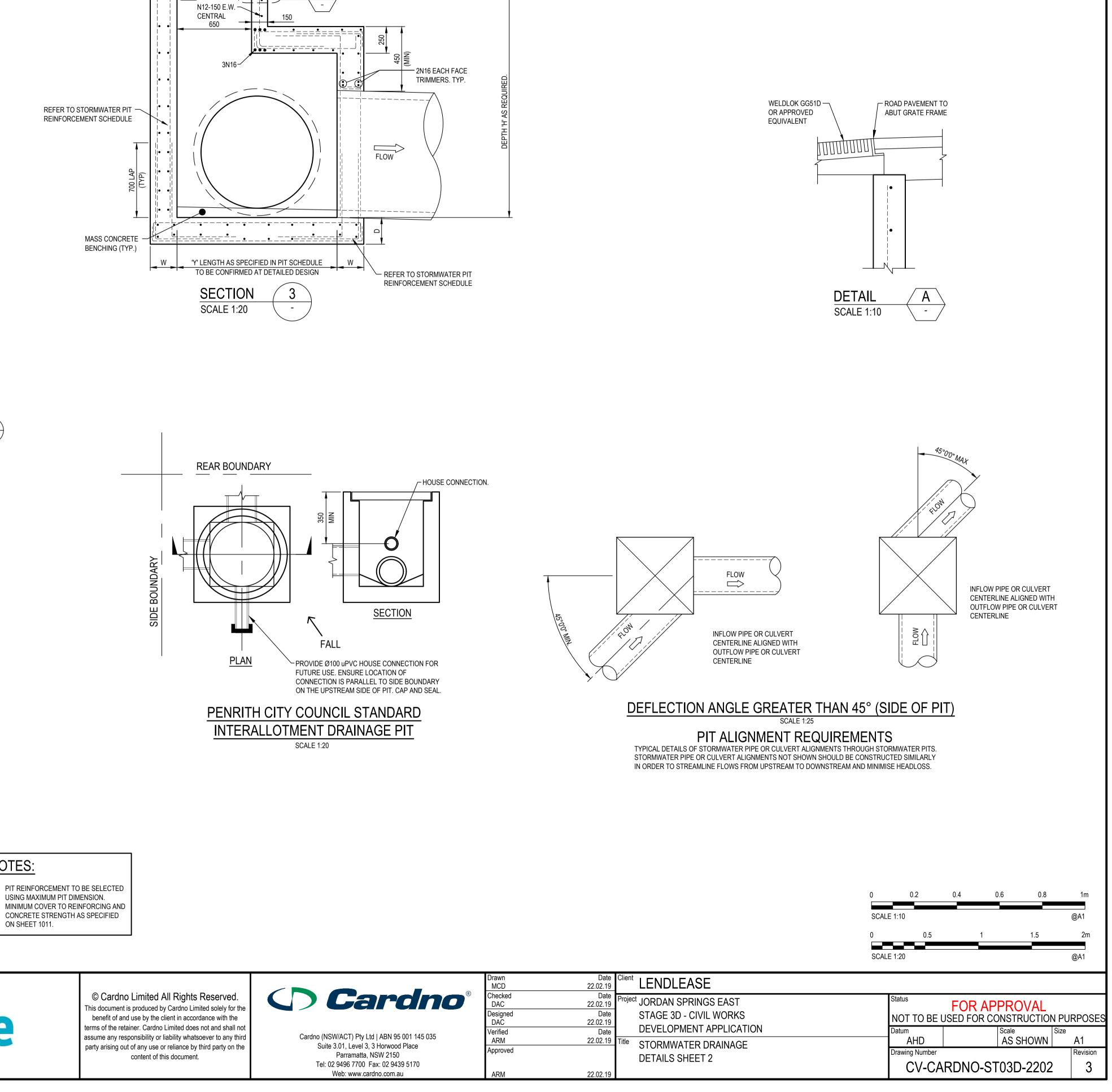
Xref ∵N:∖ XREF's:) CAD File:

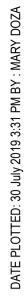
Document Set ID: 8942387 Version: 1, Version Date: 27/11/2019

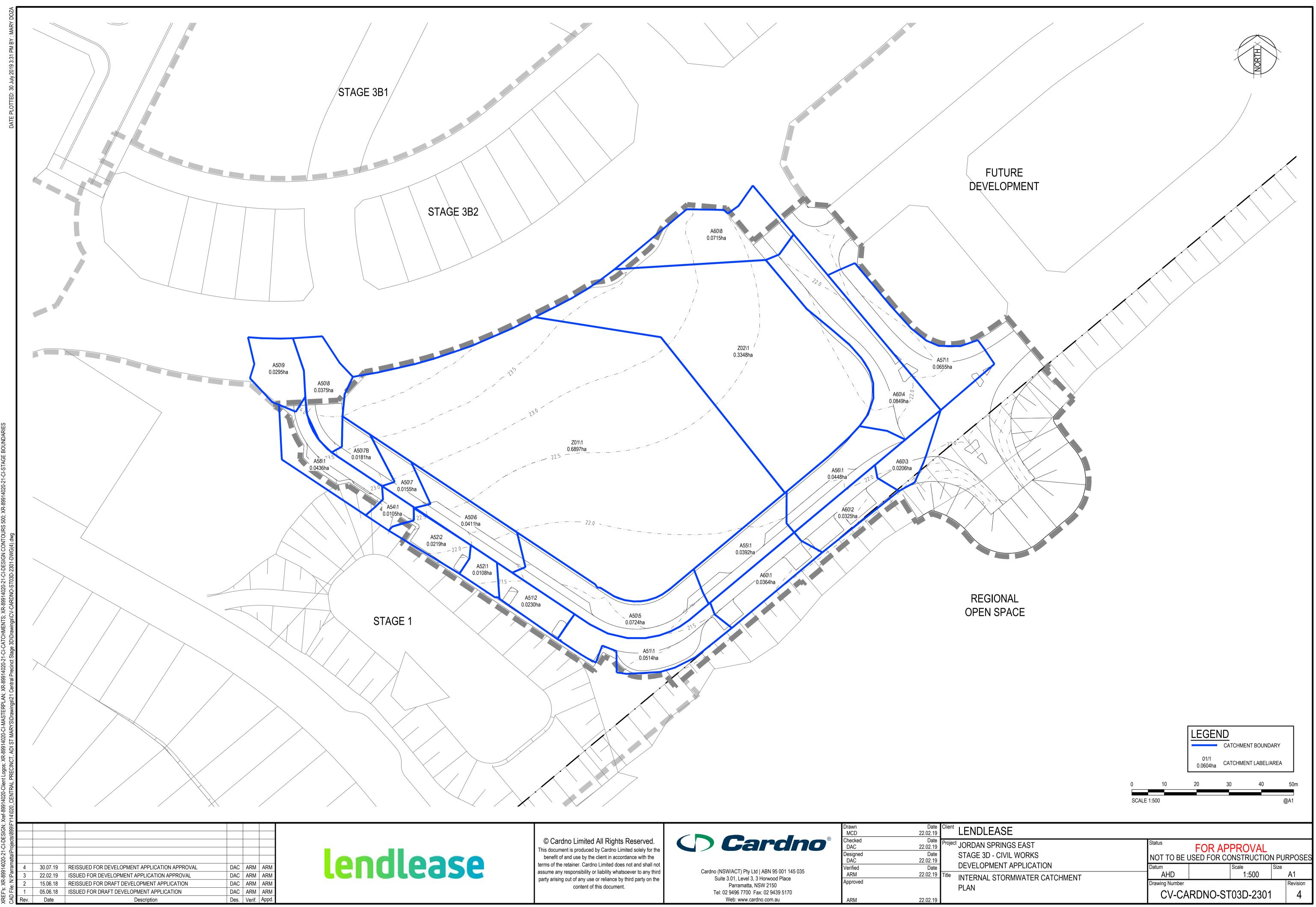












	30.07.19	REISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARI
	22.02.19	ISSUED FOR DEVELOPMENT APPLICATION APPROVAL	DAC	ARI
	15.06.18	REISSUED FOR DRAFT DEVELOPMENT APPLICATION	DAC	ARI
	05.06.18	ISSUED FOR DRAFT DEVELOPMENT APPLICATION	DAC	AR
v.	Date	Description	Des.	Veri

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content of this document.			



Drawn		Client LENDLEASE
MCD	22.02.19	LENULEASE
Checked	Date	Project JORDAN SPRING
DAC	22.02.19	JORDAN SPRING
Designed	Date	STAGE 3D - CIVIL
DAC	22.02.19	
Verified	Date	DEVELOPMENT A
ARM	22.02.19	Title INTERNAL STORM
Approved		
		PLAN
ARM	22 02 19	