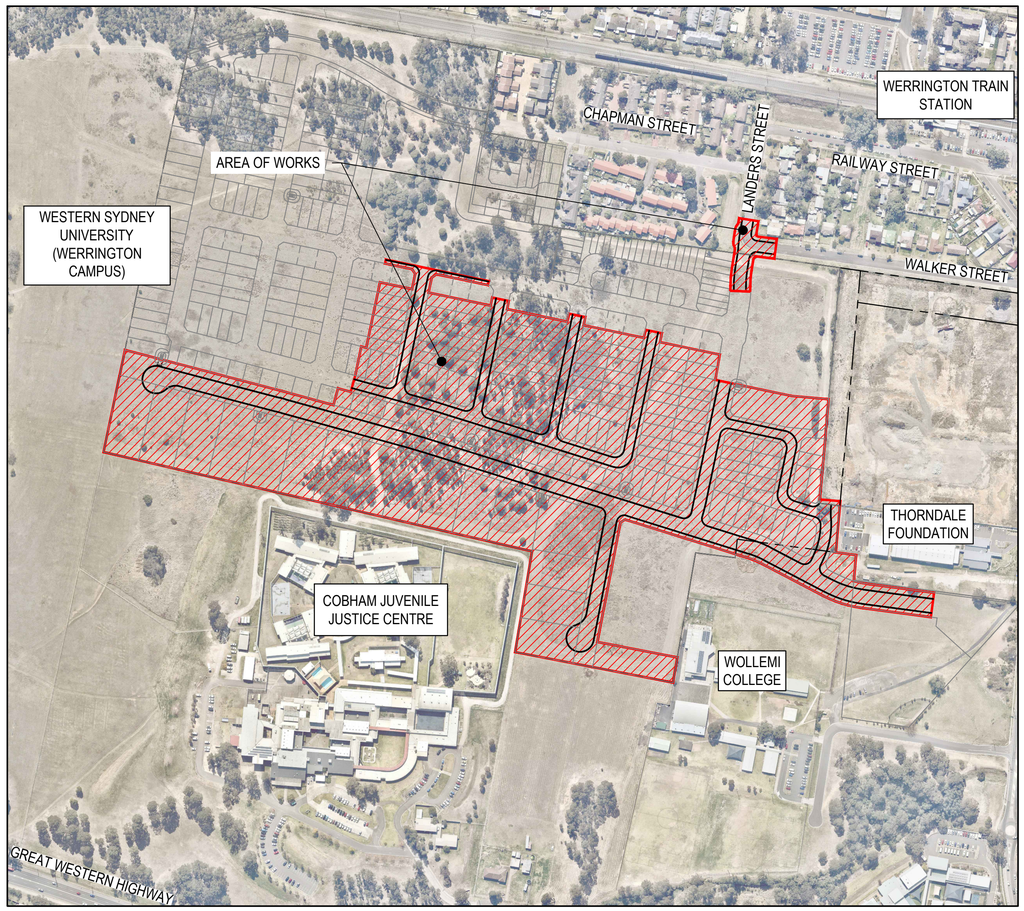
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LENDLEASE

KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE



LOCALITY PLAN
N.T.S

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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SCHEDULE OF DRAWINGS

DRAWING No.	DESCRIPTION
CV-CARDNO-S02-1001	COVER SHEET
CV-CARDNO-S02-1002	DRAWING SCHEDULE
CV-CARDNO-S02-1011	GENERAL NOTES AND LEGENDS
CV-CARDNO-S02-1031	GENERAL ARRANGEMENT PLAN
CV-CARDNO-S02-1041	ROAD HIERARCHY PLAN
CV-CARDNO-S02-1071	CONTROL LINE SET OUT PLAN
CV-CARDNO-S02-1101	SEDIMENT AND EROSION CONTROL PLAN SHEET 1 OF 3
CV-CARDNO-S02-1102	SEDIMENT AND EROSION CONTROL PLAN SHEET 2 OF 3
CV-CARDNO-S02-1103	SEDIMENT AND EROSION CONTROL PLAN SHEET 3 OF 3
CV-CARDNO-S02-1131	SEDIMENT AND EROSION CONTROL DETAILS
CV-CARDNO-S02-1141	CUT FILL PLAN
CV-CARDNO-S02-1151	SITE SECTIONS SHEET 1 OF 6
CV-CARDNO-S02-1152	SITE SECTIONS SHEET 2 OF 6
CV-CARDNO-S02-1153	SITE SECTIONS SHEET 3 OF 6
CV-CARDNO-S02-1154	SITE SECTIONS SHEET 4 OF 6
CV-CARDNO-S02-1155	SITE SECTIONS SHEET 5 OF 6
CV-CARDNO-S02-1156	SITE SECTIONS SHEET 6 OF 6
CV-CARDNO-S02-1251	TYPICAL ROAD CROSS SECTIONS AND PAVEMENT DETAILS
CV-CARDNO-S02-1301	SITEWORKS AND STORMWATER PLAN SHEET 1 OF 9
CV-CARDNO-S02-1302	SITEWORKS AND STORMWATER PLAN SHEET 2 OF 9
CV-CARDNO-S02-1303	SITEWORKS AND STORMWATER PLAN SHEET 3 OF 9
CV-CARDNO-S02-1304	SITEWORKS AND STORMWATER PLAN SHEET 4 OF 9
CV-CARDNO-S02-1305	SITEWORKS AND STORMWATER PLAN SHEET 5 OF 9
CV-CARDNO-S02-1306	SITEWORKS AND STORMWATER PLAN SHEET 6 OF 9
CV-CARDNO-S02-1307	SITEWORKS AND STORMWATER PLAN SHEET 7 OF 9
CV-CARDNO-S02-1308	SITEWORKS AND STORMWATER PLAN SHEET 8 OF 9
CV-CARDNO-S02-1309	SITEWORKS AND STORMWATER PLAN SHEET 9 OF 9
CV-CARDNO-S02-1351	ROAD LONGITUDINAL SECTION SHEET 1 OF 5
CV-CARDNO-S02-1352	ROAD LONGITUDINAL SECTION SHEET 2 OF 5
CV-CARDNO-S02-1353	ROAD LONGITUDINAL SECTION SHEET 3 OF 5
CV-CARDNO-S02-1354	ROAD LONGITUDINAL SECTION SHEET 4 OF 5
CV-CARDNO-S02-1355	ROAD LONGITUDINAL SECTION SHEET 5 OF 5
CV-CARDNO-S02-1401	ROAD CROSS SECTION SHEET 1 OF 11
CV-CARDNO-S02-1402	ROAD CROSS SECTION SHEET 2 OF 11
CV-CARDNO-S02-1403	ROAD CROSS SECTION SHEET 3 OF 11
CV-CARDNO-S02-1404	ROAD CROSS SECTION SHEET 4 OF 11
CV-CARDNO-S02-1405	ROAD CROSS SECTION SHEET 5 OF 11
CV-CARDNO-S02-1406	ROAD CROSS SECTION SHEET 6 OF 11
CV-CARDNO-S02-1407	ROAD CROSS SECTION SHEET 7 OF 11
CV-CARDNO-S02-1408	ROAD CROSS SECTION SHEET 8 OF 11
CV-CARDNO-S02-1409	ROAD CROSS SECTION SHEET 9 OF 11
CV-CARDNO-S02-1410	ROAD CROSS SECTION SHEET 10 OF 11
CV-CARDNO-S02-1411	ROAD CROSS SECTION SHEET 11 OF 11
CV-CARDNO-S02-1501	ROAD INTERSECTION PLAN SHEET 1 OF 6
CV-CARDNO-S02-1502	ROAD INTERSECTION PLAN SHEET 2 OF 6
CV-CARDNO-S02-1503	ROAD INTERSECTION PLAN SHEET 3 OF 6
CV-CARDNO-S02-1504	ROAD INTERSECTION PLAN SHEET 4 OF 6
CV-CARDNO-S02-1505	ROAD INTERSECTION PLAN SHEET 5 OF 6

SCHEDULE OF DRAWINGS

DRAWING No.	DESCRIPTION
CV-CARDNO-S02-1506	ROAD INTERSECTION PLAN SHEET 6 OF 6
CV-CARDNO-S02-1601	SITEWORKS DETAILS SHEET 1 OF 2
CV-CARDNO-S02-1602	SITEWORKS DETAILS SHEET 2 OF 2
CV-CARDNO-S02-1701	PAVEMENT PLAN SHEET 1 OF 3
CV-CARDNO-S02-1702	PAVEMENT PLAN SHEET 2 OF 3
CV-CARDNO-S02-1703	PAVEMENT PLAN SHEET 3 OF 3
CV-CARDNO-S02-1751	SIGNAGE AND LINEMARKING PLAN SHEET 1 OF 3
CV-CARDNO-S02-1752	SIGNAGE AND LINEMARKING PLAN SHEET 2 OF 3
CV-CARDNO-S02-1753	SIGNAGE AND LINEMARKING PLAN SHEET 3 OF 3
CV-CARDNO-S02-1801	RETAINING WALL LOCALITY PLAN
CV-CARDNO-S02-1811	RETAINING WALL DETAILS SHEET 1 OF 4
CV-CARDNO-S02-1812	RETAINING WALL DETAILS SHEET 2 OF 4
CV-CARDNO-S02-1813	RETAINING WALL DETAILS SHEET 3 OF 4
CV-CARDNO-S02-1814	RETAINING WALL DETAILS SHEET 4 OF 4
CV-CARDNO-S02-1851	RETAINING WALL ELEVATION SHEET 1 OF 2
CV-CARDNO-S02-1852	RETAINING WALL ELEVATION SHEET 2 OF 2
CV-CARDNO-S02-2101	STORMWATER LONGITUDINAL SECTIONS SHEET 1 OF 12
CV-CARDNO-S02-2102	STORMWATER LONGITUDINAL SECTIONS SHEET 2 OF 12
CV-CARDNO-S02-2103	STORMWATER LONGITUDINAL SECTIONS SHEET 3 OF 12
CV-CARDNO-S02-2104	STORMWATER LONGITUDINAL SECTIONS SHEET 4 OF 12
CV-CARDNO-S02-2105	STORMWATER LONGITUDINAL SECTIONS SHEET 5 OF 12
CV-CARDNO-S02-2106	STORMWATER LONGITUDINAL SECTIONS SHEET 6 OF 12
CV-CARDNO-S02-2107	STORMWATER LONGITUDINAL SECTIONS SHEET 7 OF 12
CV-CARDNO-S02-2108	STORMWATER LONGITUDINAL SECTIONS SHEET 8 OF 12
CV-CARDNO-S02-2109	STORMWATER LONGITUDINAL SECTIONS SHEET 9 OF 12
CV-CARDNO-S02-2110	STORMWATER LONGITUDINAL SECTIONS SHEET 10 OF 12
CV-CARDNO-S02-2111	STORMWATER LONGITUDINAL SECTIONS SHEET 11 OF 12
CV-CARDNO-S02-2112	STORMWATER LONGITUDINAL SECTIONS SHEET 12 OF 12
CV-CARDNO-S02-2201	STORMWATER DRAINAGE DETAILS SHEET 1 OF 2
CV-CARDNO-S02-2202	STORMWATER DRAINAGE DETAILS SHEET 2 OF 2
CV-CARDNO-S02-2221	STORMWATER SPECIAL PIT DETAILS
CV-CARDNO-S02-2251	STORMWATER PIT SCHEDULE SHEET 1 OF 2
CV-CARDNO-S02-2252	STORMWATER PIT SCHEDULE SHEET 2 OF 2
CV-CARDNO-S02-2301	STORMWATER CATCHMENTS PLAN SHEET 1 OF 4
CV-CARDNO-S02-2302	STORMWATER CATCHMENTS PLAN SHEET 2 OF 4
CV-CARDNO-S02-2303	STORMWATER CATCHMENTS PLAN SHEET 3 OF 4
CV-CARDNO-S02-2304	STORMWATER CATCHMENTS PLAN SHEET 4 OF 4
CV-CARDNO-S02-2305	STORMWATER CATCHMENTS PLAN EXTERNAL CATCHMENTS
CV-CARDNO-S02-2401	SERVICES COORDINATION PLAN SHEET 1 OF 4
CV-CARDNO-S02-2402	SERVICES COORDINATION PLAN SHEET 2 OF 4
CV-CARDNO-S02-2403	SERVICES COORDINATION PLAN SHEET 3 OF 4
CV-CARDNO-S02-2404	SERVICES COORDINATION PLAN SHEET 4 OF 4
CV-CARDNO-S02-2501	5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA SHEET 1 OF 10
CV-CARDNO-S02-2502	5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA SHEET 2 OF 10
CV-CARDNO-S02-2503	5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA SHEET 3 OF 10
CV-CARDNO-S02-2504	5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA SHEET 4 OF 10
CV-CARDNO-S02-2505	5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA SHEET 5 OF 10
CV-CARDNO-S02-2506	5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA SHEET 6 OF 10

SCHEDULE OF DRAWINGS

DRAWING No.	DESCRIPTION
CV-CARDNO-S02-2507	5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA SHEET 7 OF 10
CV-CARDNO-S02-2508	5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA SHEET 8 OF 10
CV-CARDNO-S02-2509	5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA SHEET 9 OF 10
CV-CARDNO-S02-2510	5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA SHEET 10 OF 10
CV-CARDNO-S02-3001	TURN PATH PLANS SHEET 1 OF 2
CV-CARDNO-S02-3002	TURN PATH PLANS SHEET 2 OF 2

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Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
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1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: DRAWING SCHEDULE

Status: FOR APPROVAL
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Drawing Number: CV-CARDNO-S02-1002

Revision: 3

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ACCESS AND SAFETY

1. THE CONTRACTOR SHALL COMPLY WITH ALL STATUTORY AND INDUSTRIAL REQUIREMENTS FOR PROVISION OF A SAFE WORKING ENVIRONMENT INCLUDING TRAFFIC AND PEDESTRIAN CONTROL.

2. THE CONTRACTOR SHALL ENSURE THAT AT ALL TIMES ACCESS TO ALL BUILDINGS ADJACENT THE WORKS IS NOT DISRUPTED.

3. WHERE NECESSARY THE CONTRACTOR SHALL PROVIDE SAFE PASSAGE OF VEHICLES AND/OR PEDESTRIANS THROUGH OR BY THE SITE.

GENERAL

1. ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH PENRITH CITY COUNCIL ENGINEERING CONSTRUCTION SPECIFICATION FOR CIVIL WORKS.

2. PENRITH CITY COUNCIL STANDARD DETAILS TO BE USED WHERE REQUIRED.

3. UTILITY ADJUSTMENTS AT DEVELOPERS EXPENSE.

4. CONDUITS TO BE PLACED WHERE REQUIRED BY THE RELEVANT AUTHORITIES.

SURVEY NOTES

THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN INVESTIGATED BY CARDNO, BEING REGISTERED SURVEYORS AND SURVEY PREVIOUSLY PROVIDED BY LENDLEASE THE INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN.

ALL COORDINATES NOMINATED IN THIS PACKAGE OF DRAWING ARE IN GDA94

SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, CONTACT CARDNO.

NOTES

1. THIS PLAN IS PREPARED FOR LENDLEASE FROM A COMBINATION OF FIELD SURVEY AND EXISTING RECORDS FOR THE PURPOSE OF DESIGNING NEW CONSTRUCTIONS ON THE LAND AND SHOULD NOT BE USED FOR ANY OTHER PURPOSE.
2. VISIBLE SERVICES SHOWN HEREON HAVE BEEN LOCATED WHERE POSSIBLE BY FIELD SURVEY OR DIAL BEFORE YOU DIG INFORMATION. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICES AND DETAILED LOCATIONS OF ALL SERVICES.
3. SERVICES MARKED AS DYBD ARE BASED ON DIAL BEFORE YOU DIG DATA COLLECTED ON 08/07/2019.

LEGEND

- POWER POLE WITH LIGHT
- LIGHT POLE
- WATER METER
- SEWER MANHOLE
- SEWER LAMPHOLE
- UNCLASSIFIED PIT
- DRAINAGE PIT
- COMMUNICATIONS PIT
- CONTOUR MAJOR
- SURVEY BOUNDARY
- BUILDING EDGE
- CROWN OF ROAD
- EDGE OF BITUMEN/FORMATION
- FENCE
- NATURAL SURFACE STRING
- TOE OF BANK
- TOP OF BANK
- DRAINAGE LINE
- SEWER
- POTABLE WATER (DYBD)
- ELECTIRCAL OVERHEAD LINE
- UNDERGROUND ELECTRICAL CONDUIT (DYBD)
- EXISTING OPTUS LINE (DYBD)
- EXISTING TELSTRA LINE (DYBD)
- EXISTING NBN LINE (DYBD)

EROSION AND SEDIMENT CONTROL NOTES

GENERAL INSTRUCTIONS

1. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONTROL OF EROSION AND SEDIMENTATION TO THE SATISFACTION OF COUNCIL, NSW OFFICE OF WATER AND OFFICE OF ENVIRONMENT AND HERITAGE, THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE DRAWINGS SHALL ONLY BE USED AS A GUIDE BY THE CONTRACTOR, AND SHALL REPRESENT THE MINIMUM REQUIREMENT ONLY.

2. 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.

3. MAINTAIN THE EROSION CONTROL DEVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE LOCAL AUTHORITY.
4. WHEN STORMWATER PITS ARE CONSTRUCTED, PREVENT SITE RUNOFF ENTERING UNLESS SEDIMENT FENCES ARE ERECTED AROUND PITS.

5. 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

6. 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

7. DURING WINDY WEATHER, LARGE, UNPROTECTED AREAS WILL BE KEPT MOIST (NOT WET) BY SPRINKLING WITH WATER TO KEEP DUST UNDER CONTROL.

8. FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.

SEDIMENT CONTROL

9. 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.

10. 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.

11. 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.

12. TEMPORARY SOIL AND WATER MANAGEMENT STRUCTURES WILL BE REMOVED ONLY AFTER THE LANDS THEY ARE PROTECTING ARE REHABILITATED.

13. ACCEPTABLE RECEPTORS WILL BE PROVIDED FOR CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHINGS, LIGHT-WEIGHT WASTE MATERIALS AND LITTER.

14. ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:

OTHER MATTERS

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.

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STORMWATER DRAINAGE NOTES

1. STORMWATER DESIGN CRITERIA:
   A. PUBLIC STORMWATER DESIGNED TO PENRITH COUNCIL'S STORMWATER MANAGEMENT POLICY, DESIGN GUIDELINES FOR ENGINEERING WORKS FOR SUBDIVISIONS AND DEVELOPMENTS, AND AUSTRALIAN RAINFALL AND RUNOFF 2016.

   B. ANNUAL EXCEEDANCE PROBABILITY:
   20% AEP PIPED DRAINAGE
   1% AEP OVERLAND FLOW

2. PIPES 375 DIA. AND LARGER TO BE REINFORCED CONCRETE CLASS '2' APPROVED SPIGOT AND SOCKET WITH RUBBER RING JOINTS. U.N.O.

3. PIPES 300 DIA AND LESS SHALL BE DWV GRADE (CLASS SN8) uPVC WITH SOLVENT WELDED JOINTS.

4. EQUIVALENT STRENGTH FRC PIPES MAY BE USED.

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

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

7. ALL STORMWATER DRAINAGE LINES UNDER PROPOSED BUILDING SLABS TO BE uPVC PRESSURE PIPE GRADE 6. ENSURE ALL VERTICALS AND DOWNPIPES ARE uPVC PRESSURE PIPE, GRADE 6 FOR A MIN OF 3.0m IN HEIGHT.

8. 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).

9. 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.

10. 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.

11. ALL INTERNAL WORKS WITHIN PROPERTY BOUNDARIES ARE TO COMPLY WITH THE REQUIREMENTS OF AS/NZS 3500.3:2018.

12. PRECAST PITS MAY BE USED EXTERNAL TO THE BUILDING SUBJECT TO APPROVAL BY PENRITH CITY COUNCIL.

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

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

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

16. GRATES AND COVERS SHALL CONFORM TO AS 3996 AND PENRITH CITY COUNCIL GUIDELINES.

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.

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.

EXISTING UNDERGROUND SERVICES NOTES

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.

SITEWORKS NOTES

1. ORIGIN OF LEVELS:- REFER SURVEY NOTES.

2. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES TO BE REPORTED TO CARDNO.

3. MAKE SMOOTH CONNECTION WITH EXISTING WORKS AND SURFACES.

4. ALL TRENCH BACKFILL MATERIAL SHALL BE COMPACTED TO THE SAME DENSITY AS THE ADJACENT MATERIAL.

5. 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)

6. PROVIDE 10mm WIDE EXPANSION JOINTS BETWEEN BUILDINGS AND ALL CONCRETE OR UNIT PAVEMENTS.

7. ASPHALTIC CONCRETE SHALL CONFORM TO TfNSW SPECIFICATION R116.

8. ALL BASECOURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH TfNSW. FORM 3051, COMPACTED TO MINIMUM 98% MODIFIED DENSITY IN ACCORDANCE WITH AS 1289 5.4.1 (2007) FREQUENCY OF COMPACTION TESTING SHALL NOT BE LESS THAN 1 TEST PER 50m³ OF BASECOURSE MATERIAL PLACED.

9. ALL SUB-BASE COURSE MATERIAL SHALL BE IGNEOUS ROCK QUARRIED MATERIAL TO COMPLY WITH TfNSW. 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 50m³ OF SUB-BASE COURSE MATERIAL PLACED.

10. 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.

BULK EARTHWORKS NOTES

1. ORIGIN OF LEVELS: REFER SURVEY NOTES

2. REFER TO GEOTECHNICAL REPORT PREPARED BY DOUGLAS PARTNERS PROVIDED BY LENDLEASE FOR SITE PREPARATION REQUIREMENTS

3. STRIP ALL TOPSOIL/ORGANIC MATERIAL FROM CONSTRUCTION AREA AND REMOVE FROM SITE OR STOCK PILE AS DIRECTED BY SUPERINTENDENT.

4. EXCAVATED MATERIAL TO BE USED AS STRUCTURAL FILL PROVIDED THE PLACEMENT MOISTURE CONTENT OF THE MATERIAL IS +/- 2% OF THE OPTIMUM MOISTURE CONTENT.

5. COMPACT FILL AREAS AND SUBGRADE IN ACCORDANCE WITH PENRITH CITY COUNCIL GUIDELINES AND GEOTECHNICAL REPORT.

6. FOR NON COHESIVE MATERIAL, COMPACT TO NOT LESS THAN 75% DENSITY INDEX

7. BEFORE PLACING FILL, PROOF ROLL EXPOSED SUBGRADE WITH AN 8 TO 10 TONNE (MIN) DEADWEIGHT THREE POINT STEEL WHEELED ROLLER TO DETECT THEN REMOVE SOFT SPOTS (AREAS WITH MORE THAN 2mm MOVEMENT UNDER ROLLER).

8. EARTHWORKS ARE TO BE INSPECTED AND TESTED BY AN INDEPENDENT GEOTECHNICAL TESTING AUTHORITY TO LEVEL 1 RESPONSIBILITY AS DEFINED IN AS 3798.

9. FILLING TO BE PLACED IN MAXIMUM 200mm - LOOSE LAYERS AND COMPACTED AS SPECIFIED.

10. NO FILLING SHALL TAKE PLACE TO EXPOSED SUBGRADE UNTIL THE AREA HAS BEEN PROOF ROLLED IN THE PRESENCE OF GEOTECHNICAL ENGINEER AND APPROVAL GIVEN IN WRITING THAT FILLING CAN PROCEED.

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.

SEDIMENT AND EROSION CONTROL LEGEND

- SITE FENCE
- SEDIMENT FENCE
- TEMPORARY STABILISED SITE ACCESS AND TRUCK WASH DOWN
- STRAW BALE SEDIMENT FILTER
- DIVERSION BANK AND CHANNEL
- GEOTEXTILE FILTER FABRIC DROP INLET SEDIMENT TRAP
- SANDBAG SEDIMENT TRAP FOR KERB INLET ON GRADE
- MESH AND GRAVEL INLET FILTER
- INDICATIVE STOCKPILE LOCATIONS
- SITE ENTRANCE
- TEMPORARY SEDIMENT BASIN

ROOF WATER KERB OUTLETS

1. 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.

3. ALIGNMENT OF KERB OUTLET PIPE TO BE ADJUSTED ON SITE TO AVOID SERVICE CLASHES.

CONCRETE NOTES

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 CURRENT EDITION WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

2. CONCRETE QUALITY
ALL REQUIREMENTS OF THE CURRENT ACSE CONCRETE SPECIFICATION DOCUMENT 1 SHALL APPLY TO THE FORMWORK, REINFORCEMENT AND CONCRETE UNLESS NOTED OTHERWISE.

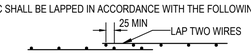
ELEMENT	AS 3600 F'c MPa AT 28 DAYS	SPECIFIED SLUMP	NOMINAL AGG. SIZE
FOOTPATH	25	80	20
STORMWATER PITS	40	80	20
KERB RAMP	25	80	20

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

3. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING BY CARDNO.
4. CLEAR CONCRETE COVER TO ALL REINFORCEMENT FOR DURABILITY SHALL BE 40mm TOP AND 70mm FOR EXTERNAL EDGES UNLESS NOTED OTHERWISE.
5. 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.
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 AND CURED IN ACCORDANCE WITH R.T.A. SPECIFICATION R83.
7. REINFORCEMENT SYMBOLS:
   N DENOTES GRADE 500 N BARS TO AS 4671 GRADE N
   R DENOTES 230 R HOT ROLLED PLAIN BARS TO AS 4671
   SL DENOTES HARD-DRAWN WIRE REINFORCING FABRIC TO AS 4671

NUMBER OF BARS IN GROUP — BAR GRADE AND TYPE
17 N 20 250
NOMINAL BAR SIZE IN mm — SPACING IN mm THE FIGURE FOLLOWING THE FABRIC SYMBOL SL IS THE REFERANCE NUMBER FOR FABRIC TO AS 4671.

8. FABRIC SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING DETAIL.



PROPOSED WORKS LEGEND

- EXTENT OF WORK
- STAGE BOUNDARY
- 158.00 — PROPOSED CONTOUR
- BATTER
- RW — RETAINING WALL
- KERB & GUTTER REFER PENRITH CITY COUNCIL STANDARD DETAIL.
- VEHICULAR CROSSING REFER PENRITH CITY COUNCIL STANDARD DETAIL.
- KERB RAMP AS PER COUNCIL STANDARDS
- SITE FENCE
- FLOW DIRECTION STORMWATER PIPE PIPE DIAMETER
- Ø375
- KERB OUTLETS
- STUB FOR FUTURE HOUSE CONNECTION
- CONCRETE HEADWALL
- KERB INLET WITH LINTEL.
- JUNCTION PIT
- GRATED INLET PIT
- SCOUR PROTECTION
- TREES TO BE RETAINED
- TREES TO BE REMOVED.
- APZ BOUNDARY
- BASIN RETAINING WALL 900mm HIGH
- BASIN RETAINING WALL VARYING HEIGHT

PROPOSED SERVICES LEGEND

- W — WATER
- G — GAS
- E — ELECTRICITY
- ELECTRICITY PILLAR
- S — SEWER
- MAINTENANCE HOLE
- TERMINAL MAINTENANCE SHAFT
- COMMUNICATION
- COMMUNICATION PIT
- COUNCIL STREET TREE
- LIGHT POLE
- ELECTRICAL SUBSTATION

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE
Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE
Title: GENERAL NOTES AND LEGENDS

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	N.T.S	A1

Drawing Number: CV-CARDNO-S02-1011
Revision: 3

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CAD File: \\cardno.com\global\AUNSW\Directory\Structure\Projects\80219053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\CC\02 Stage 2-4\CV-CARDNO-S02-1011-DWG(1).dwg

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Version: 1, Version Date: 16/03/2022

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DATE PLOTTED: 17 August 2021 4:57 PM BY : JOSHUA BEZZINA

EXISTING RAILWAY CORRIDOR

NORTH

EXISTING ROAD 08

EXISTING ROAD 01

EXISTING ROAD 02

EXISTING ROAD 03

EXISTING BASIN A

EXISTING BASIN B

STAGE 1A

STAGE 1B

STAGE 2A

STAGE 2B

STAGE 3

STAGE 4A

STAGE 4B

ROAD 01

ROAD 04

ROAD 05

ROAD 06

ROAD 07

ROAD 10

ROAD 11

ROAD 12

ROAD 13

RANCE ROAD

DRG 1301

DRG 1302

DRG 1303

DRG 1304

DRG 1305

DRG 1306

DRG 1307

DRG 1308

DRG 1309

ABORIGINAL HERITAGE ZONING
WORKS WITHIN ABORIGINAL HERITAGE ZONE ON HOLD. CONTRACTOR IS TO SEEK APPROVAL FROM LENDLEASE AND COUNCIL PRIOR TO COMMENCEMENT OF ANY WORKS WITHIN THIS AREA.

APPROVED RESIDENTIAL SUBDIVISION (BY OTHERS)

UNIVERSITY OF WESTERN SYDNEY

COBHAM JUVENILE JUSTICE CENTRE

LOT 2 (CONT.)

LOT 2

LEGEND

- EXTENT OF WORK
- VEGETATION AREA TO BE RETAINED
- EXISTING TREES TO BE REMOVED.
- ABORIGINAL HERITAGE ZONE

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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		Date
Drawn	WP	30/07/2021
Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: GENERAL ARRANGEMENT PLAN

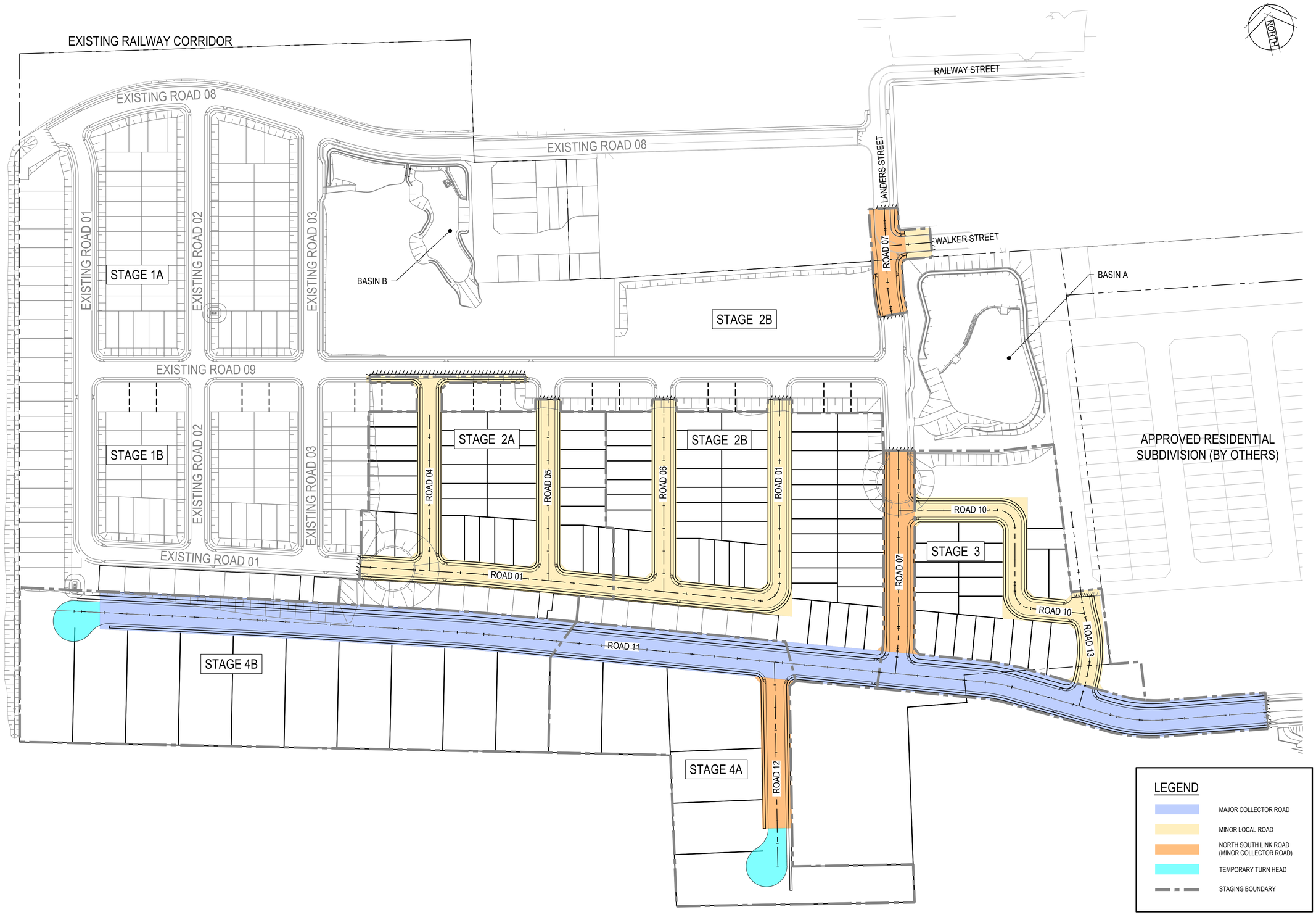
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Datum	Date	Scale	Size
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Drawing Number: CV-CARDNO-S02-1031

Revision: 3

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022



UNIVERSITY OF WESTERN SYDNEY

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE
Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE
Title: ROAD HIERARCHY PLAN

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	1:1250	A1

Drawing Number: CV-CARDNO-S02-1041
Revision: 3

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Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 17 August 2021 4:59 PM BY - JOSHUA BEZZINA

ROAD 01 SETOUT TABLE

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	292035.476	6262093.888	25.864	191°52'50.00"			
	25.000	292030.329	6262069.423	25.695	191°52'50.00"			
	50.000	292025.182	6262044.959	25.990	191°52'50.00"			
	75.000	292020.035	6262020.494	26.285	191°52'50.00"			
	100.000	292014.888	6261996.030	26.580	191°52'50.00"			
	125.000	292009.742	6261971.565	26.875	191°52'50.00"			
TC	141.565	292006.331	6261955.355	27.070	191°52'50.00"			
	150.000	292001.853	6261948.430	27.157	233°54'22.10"			
IP 2	151.144	292003.727	6261942.976	27.165		R = 11.500	19.159	95°27'18.45"
CT	160.724	291991.651	6261946.745	27.232	287°20'08.44"			
	175.000	291978.024	6261950.999	27.332	287°20'08.44"			
	200.000	291954.159	6261958.448	27.507	287°20'08.44"			
	225.000	291930.295	6261965.897	27.682	287°20'08.44"			
	250.000	291906.430	6261973.347	27.857	287°20'08.44"			
	275.000	291882.566	6261980.796	28.032	287°20'08.44"			
	300.000	291858.702	6261988.245	28.207	287°20'08.44"			
	325.000	291834.837	6261995.694	28.423	287°20'08.44"			
TC	341.258	291819.318	6262000.539	28.654	287°20'08.44"			
	350.000	291810.952	6262003.076	28.809	286°24'24.90"			
IP 3	350.723	291810.282	6262003.359	28.823		R = -539.300	18.930	2°00'40.22"
CT	360.188	291801.152	6262005.861	29.018	285°19'28.23"			
	375.000	291786.867	6262009.776	29.376	285°19'28.23"			
	400.000	291762.756	6262016.383	30.101	285°19'28.23"			
	425.000	291738.645	6262022.990	30.851	285°19'28.23"			
	450.000	291714.534	6262029.597	31.601	285°19'28.23"			
	475.000	291690.423	6262036.204	32.351	285°19'28.23"			
TC	486.608	291679.228	6262039.272	32.699	285°19'28.23"			
IP 4	489.737	291676.210	6262040.099	32.793		R = -539.300	6.258	0°39'53.46"
CT	492.866	291673.183	6262040.891	32.887	284°39'34.76"			
	500.000	291666.281	6262042.696	33.101	284°39'34.76"			
	525.000	291642.094	6262049.023	33.851	284°39'34.76"			
	550.000	291617.908	6262055.350	34.601	284°39'34.76"			
	575.000	291593.722	6262061.677	35.467	284°39'34.76"			
TC	598.075	291571.446	6262067.504	36.155	284°39'34.76"			
	600.000	291569.588	6262068.165	36.193	294°29'54.28"			
IP 5	606.778	291560.846	6262070.277	36.300		R = 11.500	17.506	87°13'15.24"
CT	615.532	291563.103	6262080.997	36.380	11°52'50.00"			
	625.000	291565.052	6262090.263	36.394	11°52'50.00"			
	650.000	291570.139	6262114.727	36.064	11°52'50.00"			
	675.000	291575.346	6262139.192	35.440	11°52'50.00"			
	700.000	291580.493	6262163.656	34.815	11°52'50.00"			
	725.000	291585.640	6262188.121	34.190	11°52'50.00"			
	750.000	291590.786	6262212.585	33.565	11°52'50.00"			
	775.000	291595.933	6262237.050	32.940	11°52'50.00"			
	800.000	291601.080	6262261.514	32.377	11°52'50.00"			
	825.000	291606.227	6262285.979	31.942	11°52'50.00"			
	850.000	291611.374	6262310.443	31.517	11°52'50.00"			
TC	853.091	291611.992	6262313.380	31.466	11°52'50.00"			
IP 6	866.436	291614.626	6262326.853	31.180		R = -50.000	26.871	30°47'29.02"
	875.000	291611.716	6262335.200	31.139	346°40'18.34"			
CT	879.872	291610.364	6262339.878	31.197	341°05'20.98"			
IP 7	887.845	291607.780	6262347.421	31.406	341°05'20.98"			

ROAD 04 SETOUT TABLE

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	291808.641	6262141.609	27.487	191°52'50.00"
	25.000	291803.494	6262117.144	27.348	191°52'50.00"
	50.000	291798.347	6262092.680	27.948	191°52'50.00"
	75.000	291793.201	6262068.215	28.545	191°52'50.00"
	100.000	291788.054	6262043.751	28.937	191°52'50.00"
	125.000	291782.907	6262019.286	29.300	191°52'50.00"
IP 2	133.141	291781.231	6262011.320	29.534	191°52'50.00"

ROAD 05 SETOUT TABLE

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	291885.557	6262125.427	26.535	191°52'50.00"
	25.000	291880.411	6262100.963	26.759	191°52'50.00"
	50.000	291875.264	6262076.498	27.022	191°52'50.00"
	75.000	291870.117	6262052.034	27.284	191°52'50.00"
	100.000	291864.970	6262027.569	27.547	191°52'50.00"
	125.000	291859.823	6262003.105	27.828	191°52'50.00"
IP 2	139.585	291856.821	6261988.832	28.221	191°52'50.00"

ROAD 06 SETOUT TABLE

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	291960.517	6262109.657	26.400	191°52'50.05"
	25.000	291955.370	6262085.193	26.218	191°52'50.05"
	50.000	291950.223	6262060.728	26.543	191°52'50.05"
	75.000	291945.076	6262036.264	26.769	191°52'50.05"
	100.000	291939.929	6262011.799	26.994	191°52'50.05"
	125.000	291934.782	6261987.335	27.219	191°52'50.05"
IP 2	146.900	291930.274	6261965.904	27.682	191°52'50.05"

ROAD 07 SETOUT TABLE

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	292068.989	6261881.447	26.116	17°39'36.16"			
TC	10.901	292072.296	6261891.834	25.851	17°39'36.16"			
IP 2	21.038	292075.374	6261901.502	25.838		R = -201.000	20.275	5°46'46.16"
	25.000	292076.099	6261905.408	25.889	13°38'27.74"			
CT	31.176	292077.463	6261911.431	26.010	11°52'50.00"			
	50.000	292081.338	6261929.852	26.247	11°52'50.00"			
	75.000	292086.485	6261954.316	26.152	11°52'50.00"			
	100.000	292091.632	6261978.781	25.977	11°52'50.00"			
	125.000	292096.779	6262003.245	25.802	11°52'50.00"			
TC	149.416	292101.805	6262027.138	25.631	11°52'50.00"			
	150.000	292101.925	6262027.710	25.627	11°44'53.03"			
IP 3	154.861	292102.926	6262032.467	25.593		R = -252.500	10.890	2°28'16.09"
CT	160.306	292103.817	6262037.840	25.555	9°24'33.92"			
	175.000	292106.219	6262052.336	25.509	9°24'33.92"			
	200.000	292110.306	6262077.000	25.688	9°24'33.92"			
	225.000	292114.393	6262101.663	25.500	9°24'33.92"			
TC	225.615	292114.494	6262102.270	25.488	9°24'33.92"			
IP 4	233.701	292115.819	6262110.265	25.307		R = -100.000	16.172	9°15'56.65"
CT	241.787	292115.839	6262118.368	25.071	0°08'37.27"			
TC	242.849	292115.842	6262119.430	25.035	0°08'37.27"			
	250.000	292116.115	6262126.575	24.774	4°14'27.56"			
IP 5	250.900	292115.862	6262127.499	24.738		R = 100.000	16.103	9°13'34.82"
CT	258.952	292117.176	6262135.460	24.385	9°22'12.08"			
	275.000	292119.788	6262151.294	23.671	9°22'12.08"			
TC	293.763	292122.843	6262169.807	23.286	9°22'12.08"			
IP 6	294.286	292122.928	6262170.323	23.283		R = -1000.000	1.046	0°03'35.68"
CT	294.809	292123.013	6262170.839	23.280	9°18'36.40"			
	300.000	292123.853	6262175.962	23.273	9°18'36.40"			
IP 7	308.000	292125.147	6262183.857		9°18'36.40"			

ROAD 10 SETOUT TABLE

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	292093.293	6261986.676	25.920	101°52'50.00"			
	25.000	292117.757	6261981.529	25.679	101°52'50.00"			
	50.000	292142.222	6261976.382	25.854	101°52'50.00"			
TC	65.600	292157.488	6261973.170	25.964	101°52'50.00"			
IP 2	74.632	292168.741	6261970.803	26.027		R = 11.500	18.064	90°00'00.00"
	75.000	292164.948	6261967.889	26.029	148°42'49.06"			
CT	83.664	292166.374	6261959.549	26.090	191°52'50.00"			
	100.000	292163.011	6261943.563	26.204	191°52'50.00"			
	125.000	292157.864	6261919.099	26.320	191°52'50.00"			
TC	125.732	292157.713	6261918.382	26.318	191°52'50.00"			
IP 3	134.217	292155.561	6261908.152	26.263		R = -11.500	16.969	84°32'41.56"
CT	142.702	292165.540	6261905.037	26.154	107°20'08.44"			
	150.000	292172.507	6261902.862	26.017	107°20'08.44"			
	175.000	292196.371	6261895.413	25.941	107°20'08.44"			
IP 4	178.485	292199.698	6261894.375	26.045	107°20'08.44"			

ROAD 11 SETOUT TABLE

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	292398.560	6261790.984	24.331	279°09'36.75"			
	25.000	292373.879	6261794.964	24.081	279°09'36.75"			
	50.000	292349.198	6261798.944	23.834	279°09'36.75"			
	75.000	292324.516	6261802.924	23.954	279°09'36.75"			
TC	78.859	292320.707	6261803.538	24.012	279°09'36.75"			
IP 2	81.601	292317.999	6261803.975	24.053		R = -200.000	5.485	1°34'16.75"
CT	84.344	292315.291	6261804.337	24.094	277°35'20.00"			
	100.000	292299.761	6261806.405	24.309	277°35'20.00"			
	125.000	292274.980	6261809.706	24.570	277°35'20.00"			
	150.000	292250.199	6261813.008	24.751	277°35'20.00"			
TC	164.556	292235.771	6261814.930	24.853	277°35'20.00"			
	175.000	292225.509	6261816.847	24.926	283°34'21.88"			
IP 3	182.010	292218.292	6261817.259	24.975		R = 100.000	34.907	20°00'00.02"
CT	199.463	292202.665	6261825.425	25.097	297°35'20.02"			
	200.000	292202.188	6261825.674	25.101	297°35'20.02"			
	225.000	292180.031	6261837.252	25.276	297°35'20.02"			
	250.000	292157.874	6261848.830	25.451	297°35'20.02"			
TC	267.154	292142.671	6261856.775	25.571	297°35'20.02"			
	275.000	292135.581	6261860.132	25.626	293°05'36.06"			
IP 4	276.102	292134.719	6261860.930	25.634		R = -100.000	17.896	10°15'12.21"
CT	285.049	292126.155	6261863.603	25.697	287°20'07.82"			
	300.000	292111.883	6261868.058	25.801	287°20'07.82"			
	325.000	292088.019	6261875.507	25.976	287°20'07.82"			
	350.000	292064.154	6261882.956	26.151	287°20'07.82"			
	375.000	292040.290	6261890.405	26.326	287°20'07.82"			
	400.000	292016.426	6261897.854	26.501	287°20'07.82"			
	425.000	291992.561	6261905.303	26.676	287°20'07.82"			
	450.000	291968.697	6261912.753	26.851	287°20'07.82"			
	475.000	291944.832	6261920.202	27.026	287°20'07.82"			
	500.000	291920.968	6261927.651	27.201	287°20'07.82"			
	525.000	291897.104	6261935.100	27.376	287°20'07.82"			
	550.000	291873.239	6261942.549	27.551	287°20'07.82"			
	575.000	291849.375	6261949.998	27.726	287°20'07.82"			
	600.000	291825.510	6261957.448	27.939	287°20'07.82"			
TC	618.427	291807.920	6261962.938	28.202	287°20'07.82"			
	625.000	291801.633	6261964.855	28.320	286°34'56.18"			
IP 5	627.201	291799.544	6261965.553	28.362		R = -500.000	17.549	2°00'39.59"
CT	635.976	291791.080	6261967.872	28.544	285°19'28.23"			
	650.000	291777.555	6261971.578	28.881	285°19'28.23"			
	675.000	291753.444	6261978.186	29.603	285°19'28.23"			
	700.000	291729.333	6261984.793	30.353	285°19'28.23"			
	725.000	291705.221	6261991.400	31.103	285°19'28.23"			
	750.000	291681.110	6261998.007	31.853	285°19'28.23"			
TC	762.720	291668.842	6262001.369	32.235	285°19'28.23"			
IP 6	765.621	291666.045	6262002.136	32.322		R = -500.000	5.802	0°39'53.46"
CT	768.522	291663.238	6262002.870	32.409	284°39'34.76"			
	775.000	291656.971	6262004.509	32.603	284°39'34.76"			
	800.000	291632.785	6262010.836	33.353	284°39'34.76"			
	825.000	291608.599	6262017.163	34.103	284°39'34.76"			
	850.000	291584.413	6262023.490	34.860	284°39'34.76"			
	875.000	291560.226	6262029.817	35.894	284°39'34.76"			
IP 7	890.000	291545.715	6262033.613	36.644	284°39'34.76"			

ROAD 12 SETOUT TABLE

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	291992.388	6261905.358	26.678	190°56'25.90"
	25.000	291987.643	6261880.812	26.395	190°56'25.90"
	50.000	291982.898	6261856.266	26.570	190°56'25.90"
	75.000	291978.153	6261831.721	26.745	190°56'25.90"
	100.000	291973.409	6261807.175	26.920	190°56'25.90"
	125.000	291968.664	6261782.630	27.095	190°56'25.90"
IP 2	135.000	291966.766	6261772.812	27.165	190°56'25.90"

ROAD 13 SETOUT TABLE

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	292183.617	6261835.378	25.248	27°35'20.02"			
TC	13.989	292190.095	6261847.777	25.077	27°35'20.02"			
IP 2	20.999	292193.347	6261854.000	25.322		R = -100.000	14.020	8°01'57.65"
	25.000	292194.648	6261857.797	25.455	21°16'48.48"			
CC	28.009	292195.697	6261860.616	25.545	19°33'22.37"			
IP 3	43.210	292200.856	6261875.139	25.684		R = -75.000	30.401	23°13'30.08"
	50.000	292199.937	6261882.115	25.976	2°45'22.25"			
CC	58.410	292199.870	6261890.520	26.037	356°19'52.29"			
IP 4	65.982	292199.385	6261898.091	26.042		R = 100.000	15.144	8°40'36.82"
CT	73.554	292200.047	6261905.649	26.000	5°00'29.11"			
	75.000	292200.173	6261907.089	25.989	5°00'29.11"			
	100.000	292202.356	6261931.993	25.791	5°00'29.11"			
	125.000	292204.538	6261956.898	25.594	5°00'29.11"			
IP 5	130.000	292204.975	6261961.879	25.554	5°00'29.11"			

WALKER STREET SETOUT TABLE

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	292121.104	6262159.264	23.442	97°19'00.77"
	25.000	292145.900	6262156.080	23.222	97°19'00.77"
IP 2	30.000	292150.859	6262155.443	23.195	97°19'00.77"

ALL COORDINATES
PROVIDED ARE IN MGA 94

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: CONTROL LINE SET OUT PLAN

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	N.T.S	A1

Drawing Number: CV-CARDNO-S02-1071
Revision: 3

XREF's: XR-80219053-001-1AB-CC-CI-LOGO
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Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 17 August 2021 5:00 PM BY - JOSHUA BEZZINA

LEGEND

- EXTENT OF WORK
- STAGE BOUNDARY
- 158.00 PROPOSED CONTOUR
- SITE FENCE
- SEDIMENT FENCE
- TEMPORARY STABILISED SITE ACCESS AND TRUCK WASH DOWN
- STRAW BALE SEDIMENT FILTER
- DIVERSION BANK AND CHANNEL
- GEOTEXTILE FILTER FABRIC DROP INLET SEDIMENT TRAP
- SANDBAG SEDIMENT TRAP FOR KERB INLET ON GRADE
- MESH AND GRAVEL INLET FILTER
- INDICATIVE STOCKPILE LOCATIONS
- SITE ENTRANCE
- TEMPORARY SEDIMENT BASIN
- CONCRETE HEADWALL
- KERB INLET WITH LINTEL
- JUNCTION PIT
- GRATED INLET PIT
- SCOUR PROTECTION

EXISTING ROAD 02

EXISTING ROAD 03

ROAD 04

ROAD 05

ROAD 01

ROAD 11

INTERALLOTMENT DRAINAGE PIT TO BE FITTED WITH GEOTEXTILE FILTER SURROUND, REFER DRG. 1131 FOR DETAILS (TYP).

SANDBAG SEDIMENT TRAP FOR KERB INLET ON GRADE, REFER DRG. 1131 FOR DETAILS (TYP).

ABORIGINAL HERITAGE ZONING
WORKS WITHIN ABORIGINAL HERITAGE ZONE ON HOLD. CONTRACTOR IS TO SEEK APPROVAL FROM LENDLEASE AND COUNCIL PRIOR TO COMMENCEMENT OF ANY WORKS WITHIN THIS AREA.

JOINS DRG. 1102

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Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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Drawn	WP	30/07/2021
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Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SEDIMENT AND EROSION CONTROL PLAN
SHEET 1 OF 3

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
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Drawing Number: CV-CARDNO-S02-1101
Revision: 3

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Version: 1, Version Date: 16/03/2022

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JOINS INSET 'A'

JOINS DRG. 1101

JOINS DRG. 1103

INTERALLOTMENT DRAINAGE PIT TO BE FITTED WITH GEOTEXTILE FILTER SURROUND, REFER DRG. 1131 FOR DETAILS (TYP).

EXISTING SEDIMENT BASIN A

SANDBAG SEDIMENT TRAP FOR KERB INLET ON GRADE, REFER DRG. 1131 FOR DETAILS (TYP).

ABORIGINAL HERITAGE ZONING
WORKS WITHIN ABORIGINAL HERITAGE ZONE ON HOLD. CONTRACTOR IS TO SEEK APPROVAL FROM LENDLEASE AND COUNCIL PRIOR TO COMMENCEMENT OF ANY WORKS WITHIN THIS AREA.

MESH AND GRAVEL INLET FILTER FOR KERB INLET AT SAG, REFER DRG. 1131 FOR DETAILS (TYP).

ROAD 01
ROAD 06
ROAD 07
ROAD 10
ROAD 11
ROAD 12
ROAD 13

(RESIDUE)
LOT 2 (CONT.)

NORTH

WALKER STREET

INSET 'A'
SCALE 1:500

LEGEND

- EXTENT OF WORK
- STAGE BOUNDARY
- 158.00 PROPOSED CONTOUR
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Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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		Date
Drawn	WP	30/07/2021
Checked	MZ	30/07/2021
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Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SEDIMENT AND EROSION CONTROL PLAN
SHEET 2 OF 3

Status: FOR APPROVAL
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Datum	Date	Scale	Size
AHD	Jul' 2021	1:500	A1

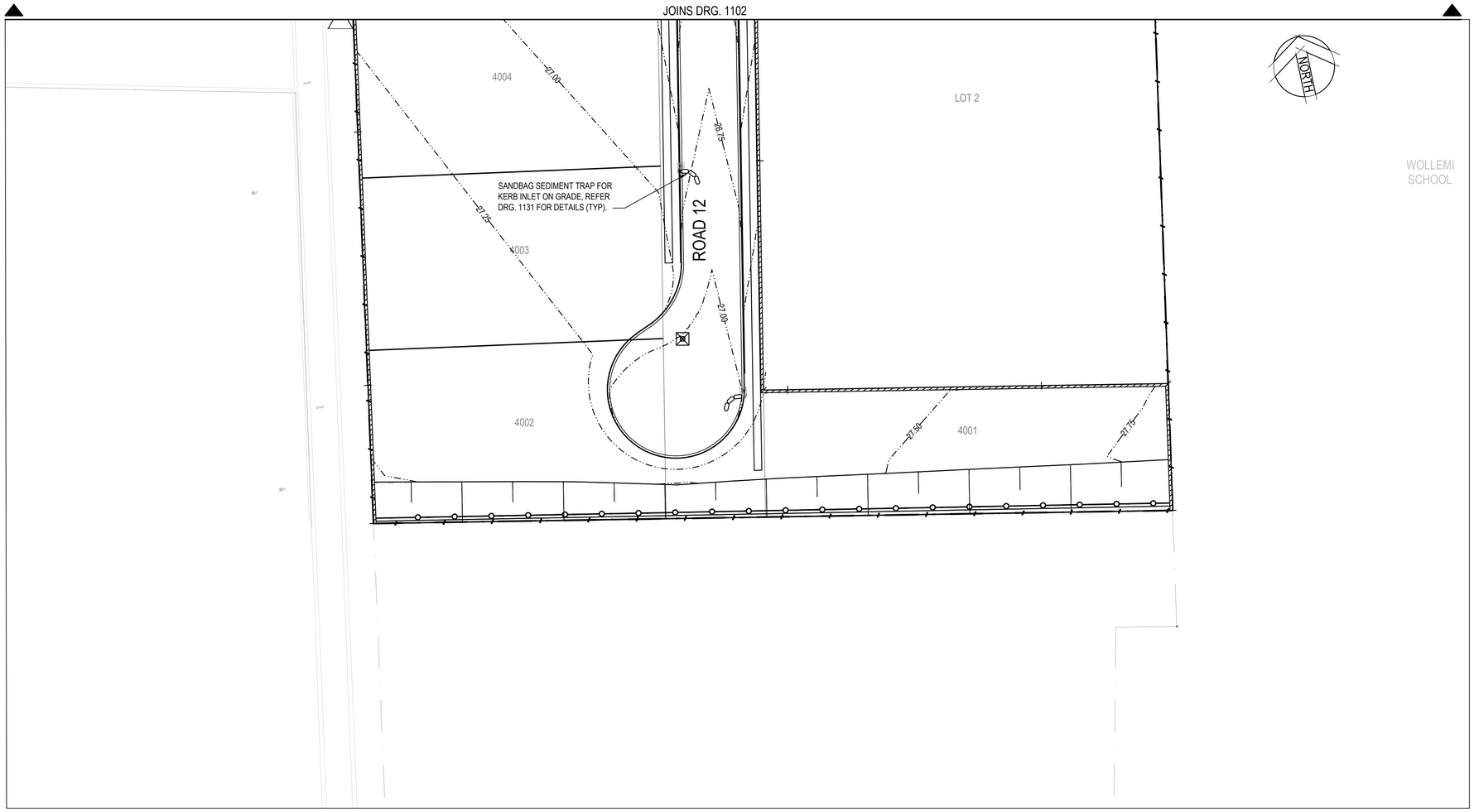
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Revision: 3

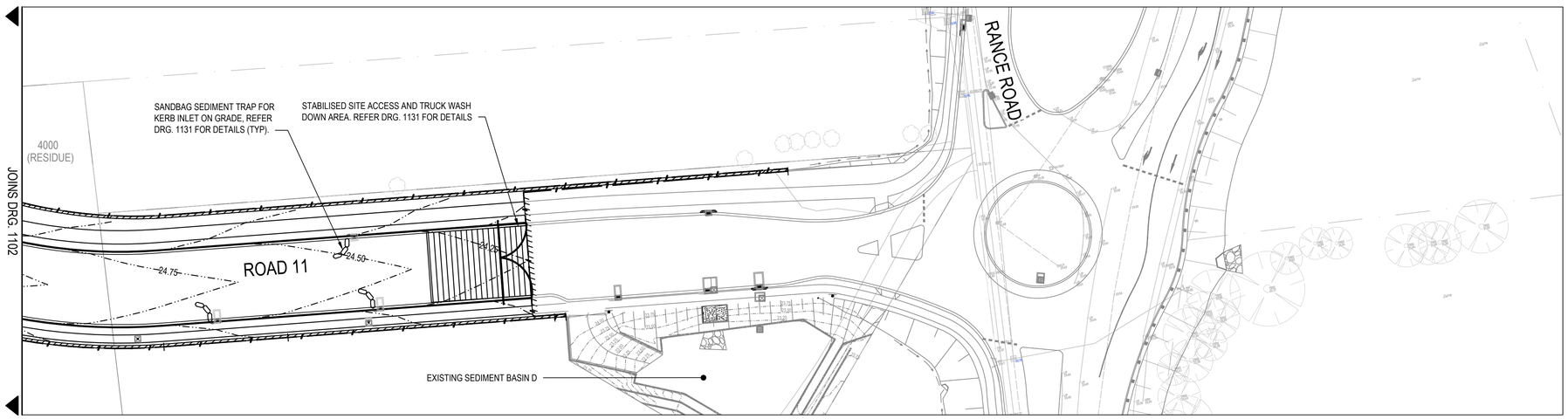
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JOINS DRG. 1102





LEGEND

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3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
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Client: LENDLEASE

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STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SEDIMENT AND EROSION CONTROL PLAN
SHEET 3 OF 3

Status: FOR APPROVAL
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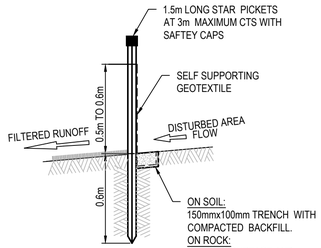
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Drawing Number: CV-CARDNO-S02-1103
Revision: 3

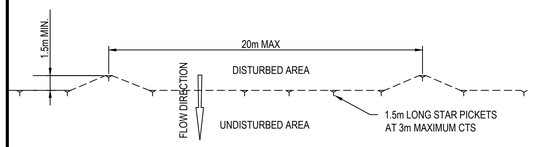
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Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

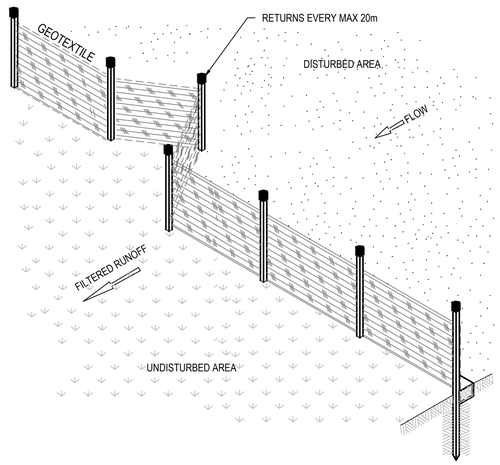
DATE PLOTTED: 17 August 2021 5:02 PM BY: JOSHUA BEZZINA



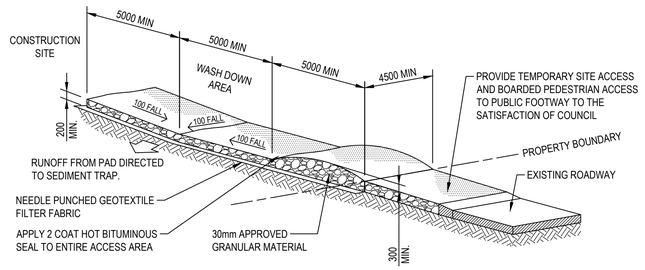
SEDIMENT FENCE SECTION
NTS



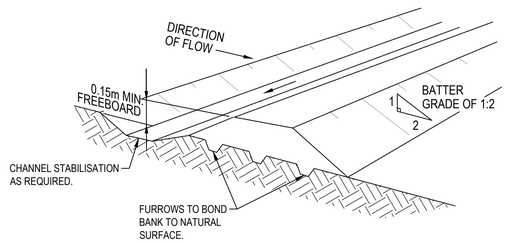
SEDIMENT FENCE PLAN
NTS



SEDIMENT FENCE ISOMETRIC
NTS



STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA
NTS



DIVERSION BANK AND CHANNEL
NTS

1. Site Data Sheet

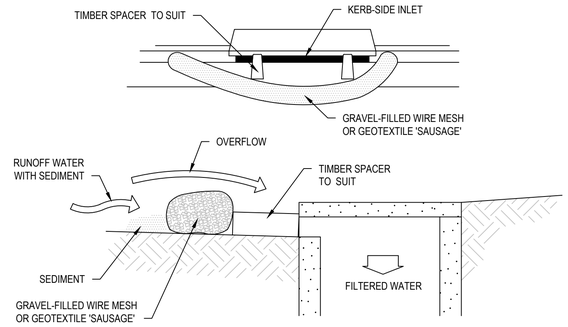
Site Name: Kings Central Stage 2-4

Site Location: Chapman St, Werrington

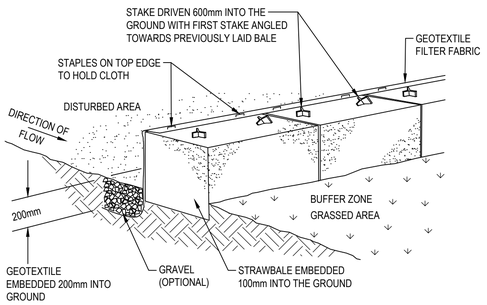
Precinct: Penrith

Description of Site: Residential development and road works

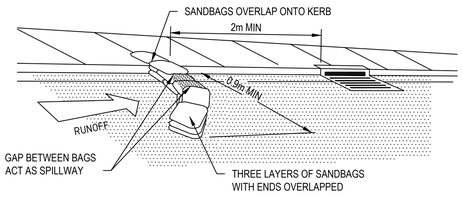
Site area	Site A	Site D					Remarks
Total catchment area (ha)	5.97	8.29					
Disturbed catchment area (ha)	5.97	7.35					
Soil analysis							
% sand (fraction 0.02 to 2.00 mm)	25	25					Soil texture should be assessed through
% silt (fraction 0.002 to 0.02 mm)	25	25					mechanical dispersion only. Dispersing
% clay (fraction finer than 0.002 mm)	50	50					agents (e.g. Calgon) should not be used
Dispersion percentage	17.0	17.0					E.g. enter 10 for dispersion of 10%
% of whole soil dispersible	10.625	10.625					See Section 6.3.3(e)
Soil Texture Group	D	D					See Section 6.3.3(c), (d) and (e)
Rainfall data							
Design rainfall depth (days)	5	5					See Sections 6.3.4 (d) and (e)
Design rainfall depth (percentile)	80	80					See Sections 6.3.4 (f) and (g)
x-day, y-percentile rainfall event	27.4	27.4					See Section 6.3.4 (h)
Rainfall intensity: 2-year, 6-hour storm	8.78	8.78					See IFD chart for the site
RUSLE Factors							
Rainfall erosivity (*R*-factor)	1780	1780					Automatic calculation from above data
Soil erodibility (*K*-factor)	0.038	0.038					
Slope length (m)	88	473					
Slope gradient (%)	3%	2.70%					RUSLE data can be obtained from
Length/gradient (*LS*-factor)	0.554	1.06					Appendixes A, B and C
Erosion control practice (*P*-factor)	1.3	1.3					
Ground cover (*C*-factor)	1	1					
Calculations							
Soil loss (t/ha/yr)	49	93					
Soil Loss Class	1	1					See Section 4.4.2(b)
Soil loss (m^3/ha/yr)	37	72					
Sediment basin storage volume, m^3	38	90					See Sections 6.3.4(i) and 6.3.5 (e)



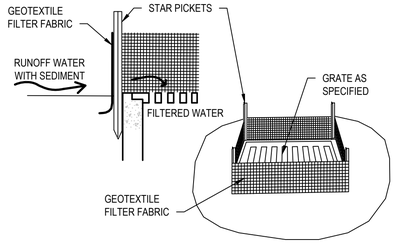
MESH AND GRAVEL INLET FILTER
NTS



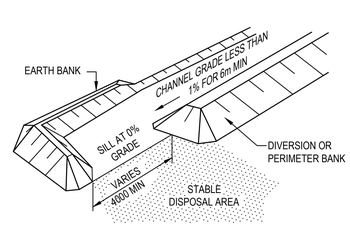
STRAWBALE AND GEOTEXTILE SEDIMENT FILTER
NTS



SANDBAG SEDIMENT TRAP FOR KERB INLET ON GRADE
NTS



GEOTEXTILE FILTER PIT SURROUND
NTS



LEVEL SPREADER
NOT TO SCALE

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

lendlease

0 500 1000 1500 2000mm
SCALE 1:20 @A1
0 1000 2000 3000 4000 5000mm
SCALE 1:50 @A1

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Drawn	WP	30/07/2021
Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SEDIMENT AND EROSION CONTROL DETAILS

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	AS SHOWN	A1

Drawing Number: CV-CARDNO-S02-1131
Revision: 3

XREFs: XR-80219003-001-1AB-CC-CI-LOGO
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Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

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DATE PLOTTED: 17 August 2021 5:04 PM BY - JOSHUA BEZZINA

APPROXIMATE BULK EARTHWORKS VOLUMES

CUT	=	8,800 m³
FILL	=	20,3000 m³
BALANCE	=	19,4200 m³ (FILL REQUIRED)

NOTE

THE CUT FILL DEPTHS SHOWN ON THIS PLAN REPRESENT THE DIFFERENCE BETWEEN FINISHED SURFACE DESIGN LEVELS AND EXISTING SITE LEVELS. NO ALLOWANCE HAS BEEN MADE FOR ROAD BOXING, OR TOPSOIL STRIPPING OR BULKING FACTOR. THEREFORE THE CUT FILL DEPTHS SHOWN ON THIS PLAN ARE ACCURATE TO APPROXIMATELY +/- 0.3m.

LEGEND

- CUT GREATER THAN 3m
- CUT BETWEEN 2.75m AND 3m
- CUT BETWEEN 2.5m AND 2.75m
- CUT BETWEEN 2.25m AND 2.5m
- CUT BETWEEN 2.0m AND 2.25m
- CUT BETWEEN 1.75m AND 2.0m
- CUT BETWEEN 1.5m AND 1.75m
- CUT BETWEEN 1.25m AND 1.5m
- CUT BETWEEN 1.0m AND 1.25m
- CUT BETWEEN 0.75m AND 1.0m
- CUT BETWEEN 0.5m AND 0.75m
- CUT BETWEEN 0.25m AND 0.5m
- CUT LESS THAN 0.25m
- FILL LESS THAN 0.25m
- FILL BETWEEN 0.25m AND 0.5m
- FILL BETWEEN 0.5m AND 0.75m
- FILL BETWEEN 0.75m AND 1.0m
- FILL BETWEEN 1.0m AND 1.25m
- FILL BETWEEN 1.25m AND 1.5m
- FILL BETWEEN 1.5m AND 1.75m
- FILL BETWEEN 1.75m AND 2.0m
- FILL BETWEEN 2.0m AND 2.25m
- FILL BETWEEN 2.25m AND 2.5m
- FILL BETWEEN 2.5m AND 2.75m
- FILL BETWEEN 2.75m AND 3m
- FILL GREATER THAN 3.0m

NORTH

PRE EARTHWORKS LEVELS WITHIN WORKS BOUNDARY

STAGES 1A-1B BULK EARTHWORKS - REFER TO SHEET CV-CARDNO-S01-1141

STAGE 1A

STAGE 1B

STAGE 2A

STAGE 2B

STAGE 3

STAGE 4A

STAGE 4B

APPROVED RESIDENTIAL SUBDIVISION (BY OTHERS)

ROAD 01

ROAD 04

ROAD 05

ROAD 06

ROAD 07

ROAD 10

ROAD 11

ROAD 12

ROAD 13

RANCE ROAD

LOT 2

LOT 2 (CONT.)

ABORIGINAL HERITAGE ZONING
WORKS WITHIN ABORIGINAL HERITAGE ZONE ON HOLD. CONTRACTOR IS TO SEEK APPROVAL FROM LENDLEASE AND COUNCIL PRIOR TO COMMENCEMENT OF ANY WORKS WITHIN THIS AREA.

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

SCALE 1:1250 @A1

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		Date
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Designed	DAC	30/07/2021
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Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: CUT FILL PLAN

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

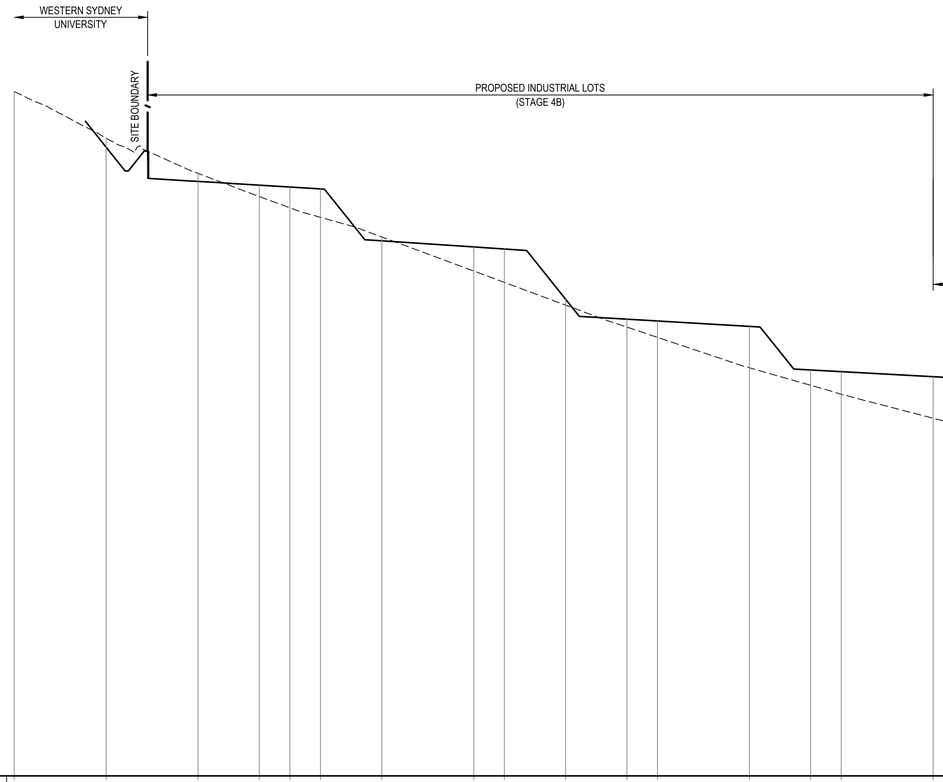
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Drawing Number: CV-CARDNO-S02-1141

Revision: 3

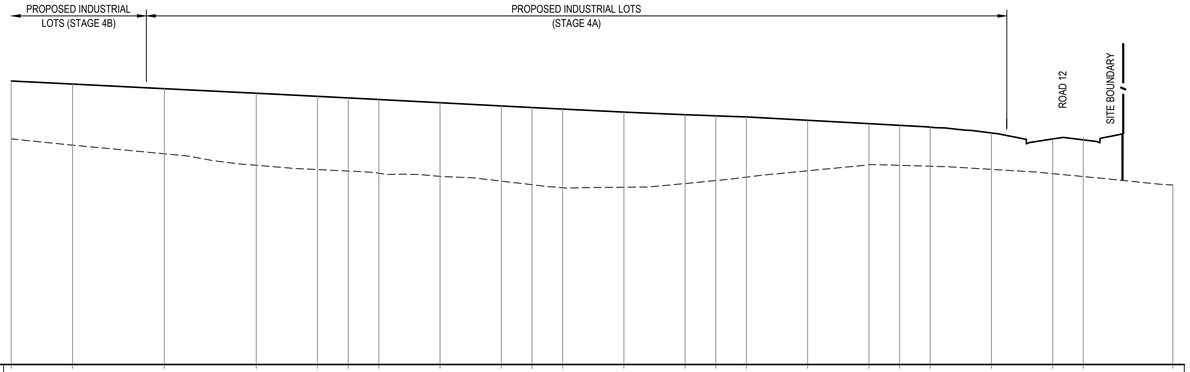
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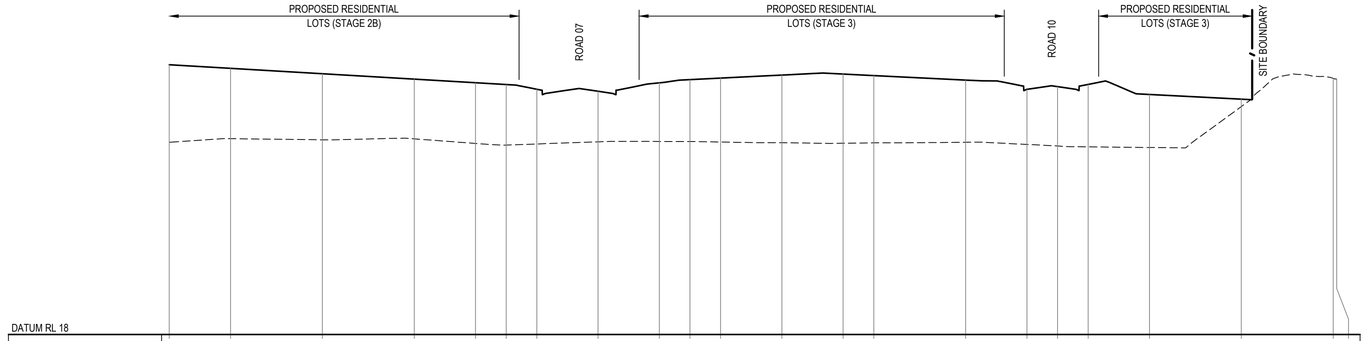
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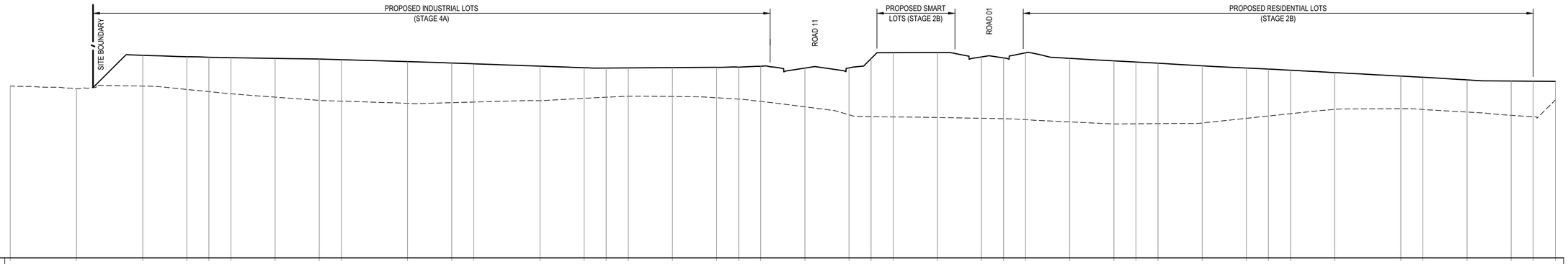
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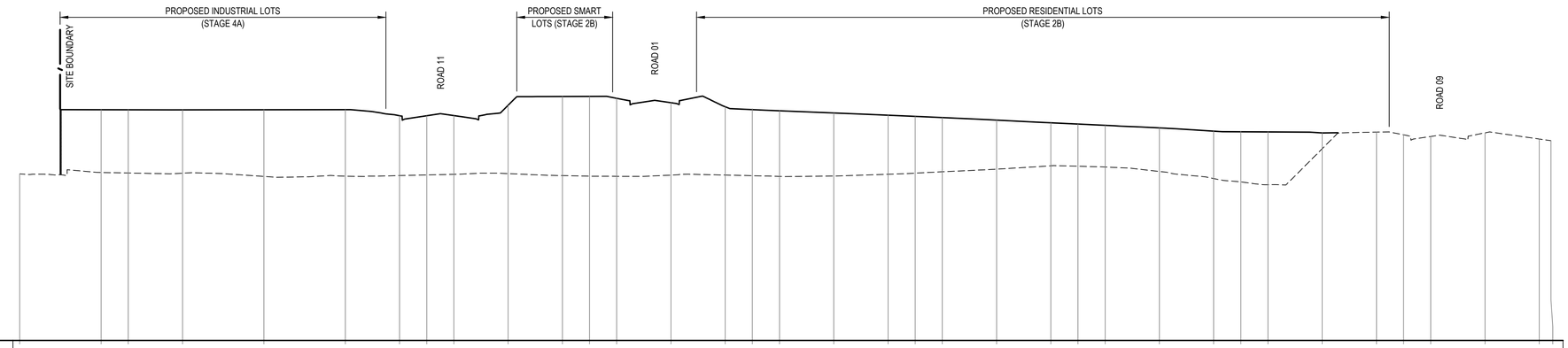
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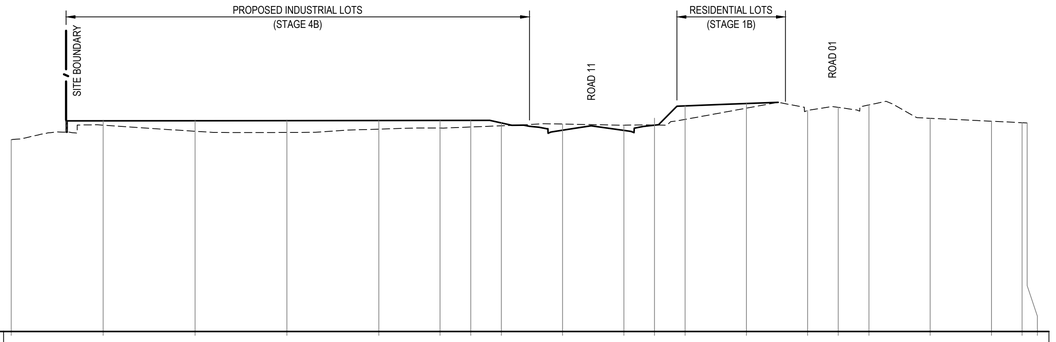
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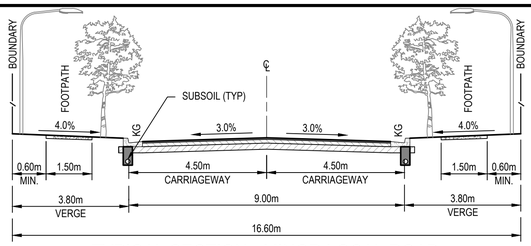
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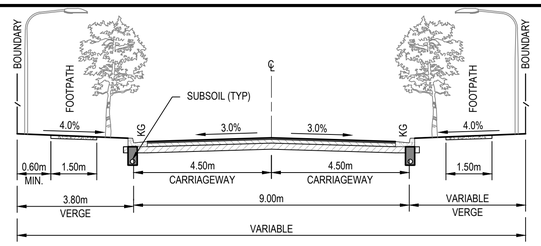
DATE PLOTTED: 18 August 2021 11:05 AM BY: JOSHUA BEZZINA



TYPICAL SECTION - MINOR LOCAL ROAD

ROAD 01, 04, 05, 06, 10 & 13 (CH0-CH30)

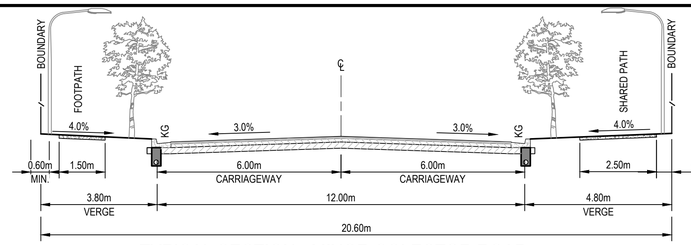
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TYPICAL SECTION - MINOR LOCAL ROAD

ROAD 13 (CH30-CH73.544)

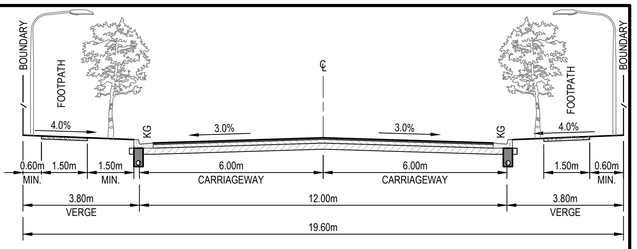
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TYPICAL SECTION - MINOR COLECTOR ROAD

ROAD 07

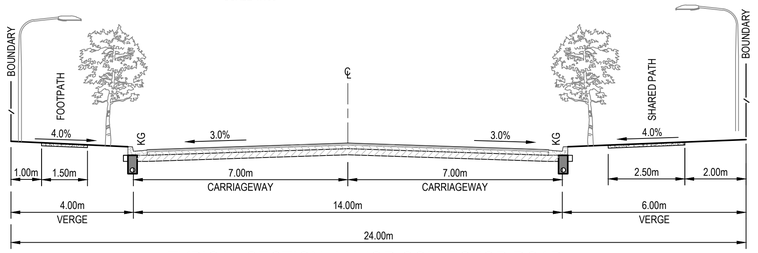
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TYPICAL SECTION - NORTH SOUTH ROAD (MINOR COLLECTOR ROAD)

ROAD 12

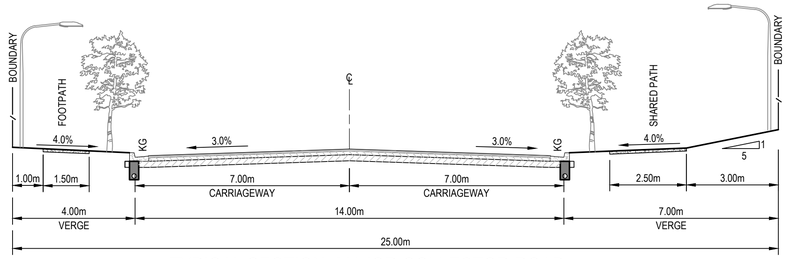
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TYPICAL SECTION -MAJOR COLLECTOR ROAD

ROAD 11 (CH95.368-CH210)

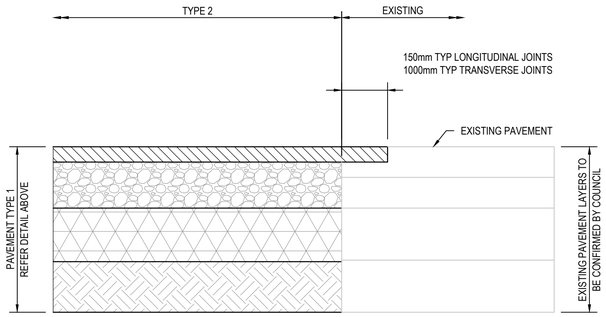
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TYPICAL SECTION -MAJOR COLLECTOR ROAD

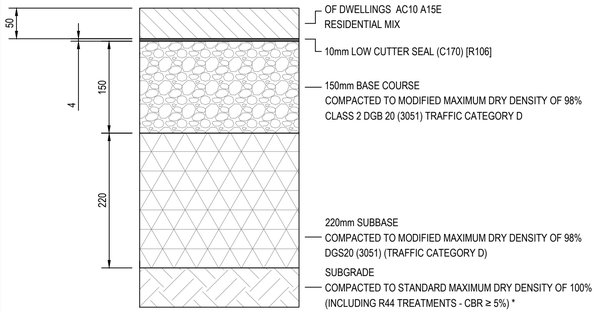
ROAD 11 (CH240-CH855)

SCALE 1:100



PAVEMENT TYPE 2 TO EXISTING PAVEMENT INTERFACE DETAIL

SCALE 1:10



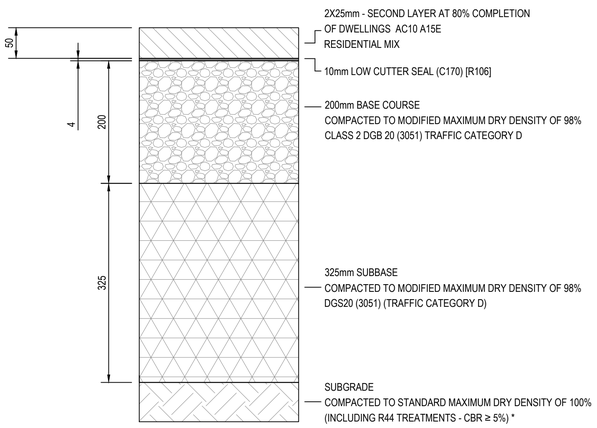
PAVEMENT TYPE 1

(ROAD 7 AMD ROAD 13)

SCALE 1:10

DESA=5x10E+5

* WHERE HIGH SWELLING POTENTIAL MATERIAL IS ENCOUNTERED A LAYER OF MINIMUM 600mm SELECT MATERIAL MUST BE PLACED IN ACCORDANCE WITH RMS PART 2 SUPPLEMENT



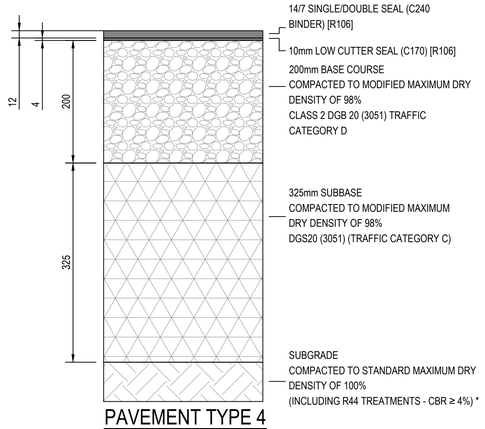
PAVEMENT TYPE 3

(ROAD 11 AND ROAD 12)

SCALE 1:10

DESA=5x10E+6

* WHERE HIGH SWELLING POTENTIAL MATERIAL IS ENCOUNTERED A LAYER OF MINIMUM 600mm SELECT MATERIAL MUST BE PLACED IN ACCORDANCE WITH RMS PART 2 SUPPLEMENT
PROVIDE SJ AT 4M SPACING
EVERY THIRD JOINT TO DEJ



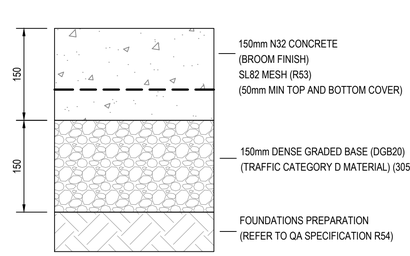
PAVEMENT TYPE 4

(TEMPORARY TURN HEAD)

SCALE 1:10

DESA=5x10E+6

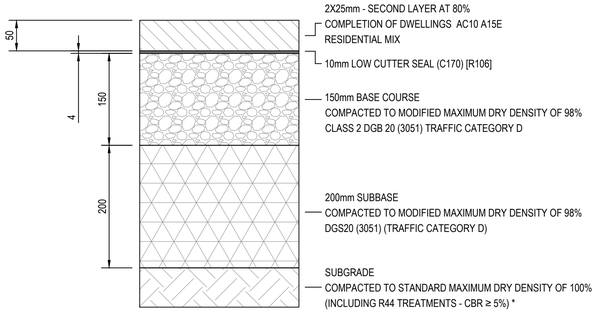
* WHERE HIGH SWELLING POTENTIAL MATERIAL IS ENCOUNTERED A LAYER OF MINIMUM 600mm SELECT MATERIAL MUST BE PLACED IN ACCORDANCE WITH RMS PART 2 SUPPLEMENT



PAVEMENT TYPE SP1

(SHARED PATH /DRIVEWAY)

SCALE 1:10



PAVEMENT TYPE 2

(ROAD 01, ROAD 04, ROAD 05, ROAD 06, ROAD 10 & WALKER STREET)

SCALE 1:10

DESA=5x10E+4

* WHERE HIGH SWELLING POTENTIAL MATERIAL IS ENCOUNTERED A LAYER OF MINIMUM 600mm SELECT MATERIAL MUST BE PLACED IN ACCORDANCE WITH RMS PART 2 SUPPLEMENT

PAVEMENT NOTES

1. PAVEMENTS DESIGNED IN ACCORDANCE WITH PCC "DESIGN GUIDELINES FOR ENGINEERING WORKS FOR SUBDIVISIONS AND DEVELOPMENTS AS A MINIMUM
2. ALL PAVEMENT FOUNDATION WORKS ARE TO BE PREPARED IN ACCORDANCE WITH EARTHWORKS SPECIFICATION
3. MATERIAL SUPPLY AND CONSTRUCTION:
   a. PRIME, PRIMER SEALS AND SPRAY SEALS TO CONFORM TO SPECIFICATION R106 AND RMS SPECIFICATION 3258.
   b. BASECOURSE / SUBBASE MATERIAL TO CONFORM TO SPECIFICATION 3051 FOR TRAFFIC CATEGORY D.
   c. DRAINAGE LAYER MATERIAL (EXCEPT FOR NO FINES CONCRETE) TO CONFORM TO SPECIFICATION R44.
   d. JOINT FILLER TO COMPLY WITH SPECIFICATION 3204.
4. CONFIRM EXISTING GRANULAR PAVEMENT COMPOSITION (INCLUDING BASE, SUBBASE AND LOWER SUBBASE UP TO SUBGRADE LEVEL) VIA PAVEMENT INVESTIGATION TECHNIQUES
   SHOULD A THICKNESS OF AT LEAST 425mm OF EXISTING SUITABLE GRANULAR MATERIAL (AT LEAST SMZ QUALITY) NOT BE ENCOUNTERED AFTER TRIMMING OFF EXISTING PAVEMENT LAYERS, EXISTING PAVEMENT TO BE REMOVED TO REQUIRED FOUNDATION DEPTH
   FILLS GREATER THAN 425mm, EXISTING PAVEMENT CAN BE LEFT IN-SITU, ASPHALT MUST BE MILLED OFF
5. RIPPED SEAL AND REMOVED EXISTING PAVEMENT MATERIAL MAY BE REUSED IF SUITABLE IN ACCORDANCE WITH R44 and RMS Specification 3051.
6. NEW PAVEMENTS TO BE MINIMUM OF 1.5m WIDTH. LONGITUDINAL JOINTS TO BE LOCATED AWAY FROM WHEEL PATHS
7. SUBSURFACE DRAINS TO BE EITHER 150mm RIGID STRIP FILTER (RMS 3556) OR 100mm CORRUGATED PERFORATED PLASTIC DRAINAGE PIPE (RMS 3552) WITH SEAMLESS TUBULAR FILTER FABRIC (RMS 3553).
8. TRENCH DRAINS UNDER TRAFFICABLE PAVEMENT TO BE BACKFILLED WITH NO FINES CONCRETE. INCLUDES DRIVEWAY CROSSING AND SIDE ROADS

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2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

0 0.2 0.4 0.6 0.8 1m
SCALE 1:10 @A1

0 1 2 4 6 8 10m
SCALE 1:100 @A1

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Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: TYPICAL ROAD CROSS SECTIONS AND PAVEMENT DETAILS

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	AS SHOWN	A1

Drawing Number: CV-CARDNO-S02-1251

Revision: 3

XREFs: XR-80219053-001-1AB-CC-CI-LOGO
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Version: 1, Version Date: 16/03/2022

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NOTE

1. REFER DRG. 1011 FOR NOTES AND LEGEND.
2. SUBSOIL DRAINAGE LINES TO BE PROVIDED AS PER PENRITH CITY COUNCIL DESIGN GUIDELINES FOR ENGINEERING WORKS.
3. BENCHED LOTS FEATURE 1V:4H BATTERS ALONG SIDE BOUNDARY. TOE OF BATTER IS SITUATED ON LOW SIDE BOUNDARY
4. FOR CLARITY SUBSOIL DRAINAGE LINES HAVE BEEN OMITTED FROM PLANS BEHIND RETAINING WALLS WHERE INTER-ALLOTMENT DRAINAGE LINES ARE PRESENT. SUBSOIL DRAINAGE LINES ARE TO BE PROVIDED BEHIND ALL RETAINING WALLS AS PER DETAILS.

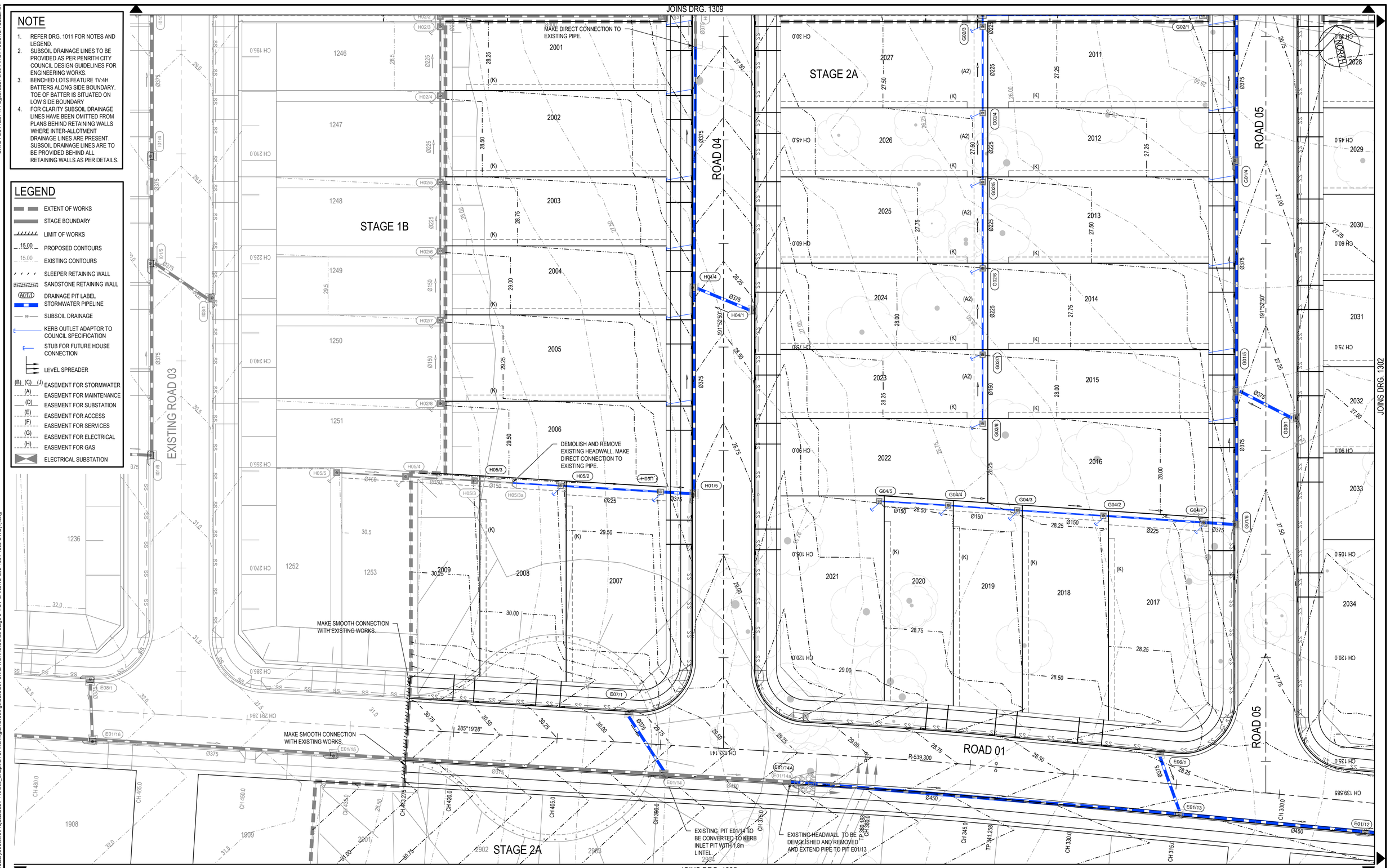
LEGEND

- EXTENT OF WORKS
- STAGE BOUNDARY
- LIMIT OF WORKS
- 15.00 PROPOSED CONTOURS
- 15.00 EXISTING CONTOURS
- SLEEPER RETAINING WALL
- SANDSTONE RETAINING WALL
- A01\11 DRAINAGE PIT LABEL
- STORMWATER PIPELINE
- SS SUBSOIL DRAINAGE
- KERB OUTLET ADAPTOR TO COUNCIL SPECIFICATION
- STUB FOR FUTURE HOUSE CONNECTION
- LEVEL SPREADER
- (B) (C) (J) EASEMENT FOR STORMWATER
- (A) EASEMENT FOR MAINTENANCE
- (D) EASEMENT FOR SUBSTATION
- (E) EASEMENT FOR ACCESS
- (F) EASEMENT FOR SERVICES
- (G) EASEMENT FOR ELECTRICAL
- (H) EASEMENT FOR GAS
- ELECTRICAL SUBSTATION

JOINS DRG. 1309

JOINS DRG. 1302

JOINS DRG. 1305



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Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SITEWORKS AND STORMWATER PLAN
SHEET 1 OF 9

Status: FOR APPROVAL
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Datum	Date	Scale	Size
AHD	Jul' 2021	1:250	A1

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JOINS DRG. 1301

JOINS DRG. 1303

JOINS DRG. 1306

2200 (RESIDUE)

2210 (RESIDUE)

2230 (RESIDUE)

MAKE SMOOTH CONNECTION WITH EXISTING WORKS.

MAKE SMOOTH CONNECTION WITH EXISTING WORKS.

2231 EXISTING PIPE TO BE REMOVED

ROAD 06

ROAD 01

STAGE 2A

STAGE 2B

NORTH

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Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SITEWORKS AND STORMWATER PLAN
SHEET 2 OF 9

Status: FOR APPROVAL
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INSET B

EXISTING ROAD 07

EXISTING PIPE TO BE REMOVED

MAKE SMOOTH CONNECTION WITH EXISTING WORKS.

EXISTING PIT D01/4 TO BE CONVERTED TO KERB INLET PIT WITH 1.8m LINTEL.

EXISTING TEMPORARY TURN HEAD TO BE DEMOLISHED AND REMOVED

EXISTING HEADWALL TO BE DEMOLISHED AND REMOVED. EXISTING PIT TO CONNECT TO PIT D01/6

(RESIDUE)

ROAD 10

ROAD 07

STAGE 3

ROAD WIDENING

JOINS DRG. 1302

JOINS DRG. 1307

LANDERS STREET

WALKER STREET

MAKE SMOOTH CONNECTION WITH EXISTING WORKS.

EXISTING PRAM RAMP TO BE REMOVED.

EXISTING KERBS TO BE RECONSTRUCTED MATCHING EXISTING LEVELS

STAGE 2A

CONVERT EXISTING PIT INTO 1.8M ON-GRADE LINTEL. REFER DRG 2251 FOR DETAIL.

PROVIDE 1m BERM AND TEMPORARY INTERFACE WITH ADJOINING LANDOWNERS CONSENT

BATTER 1 in 5

INSET 'B'
SCALE 1:250

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Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SITEWORKS AND STORMWATER PLAN
SHEET 3 OF 9

Status: FOR APPROVAL
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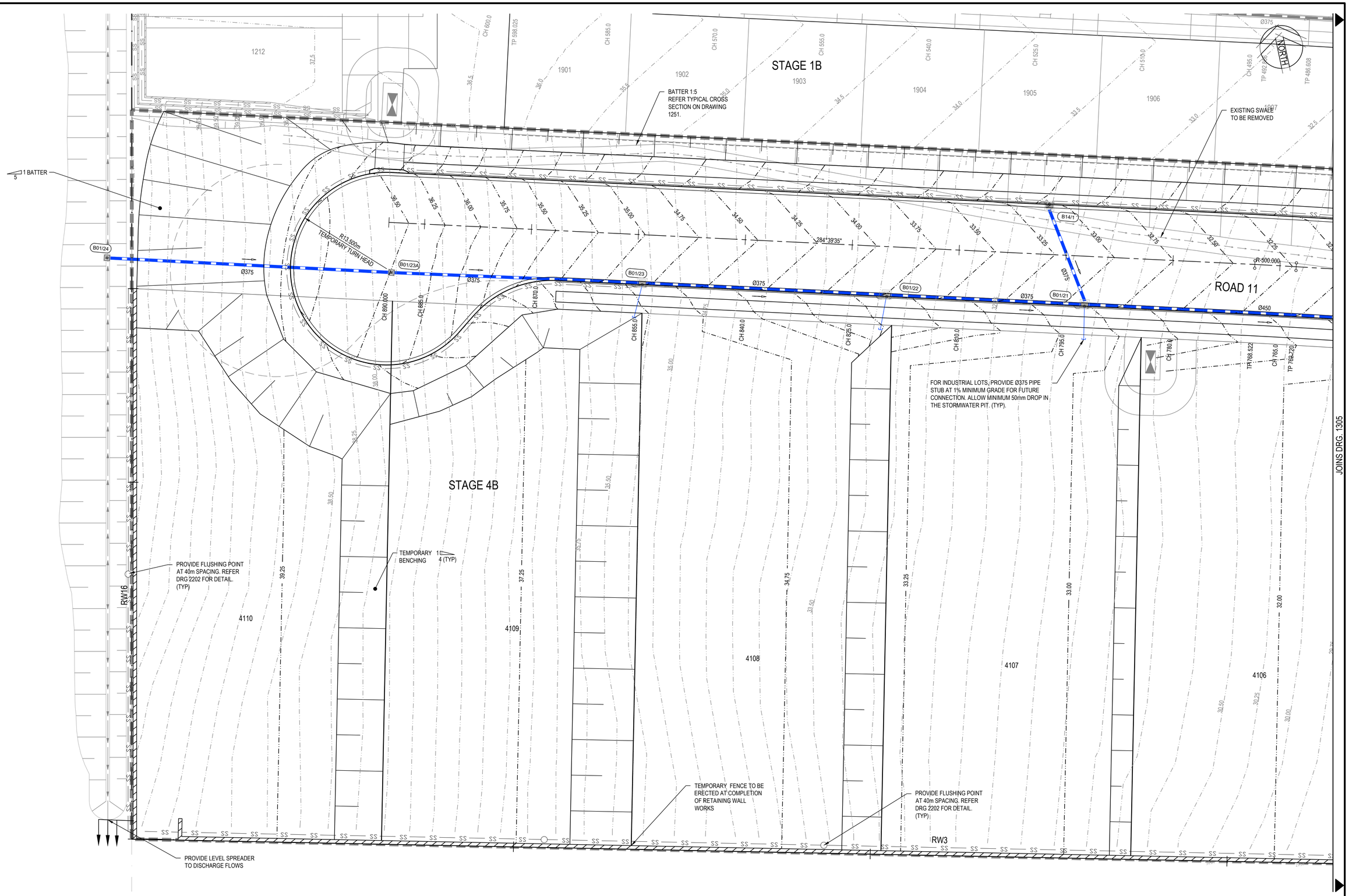
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Revision: 3

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JOINS DRG. 1305

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Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SITEWORKS AND STORMWATER PLAN
SHEET 4 OF 9

Status: FOR APPROVAL
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Drawing Number: CV-CARDNO-S02-1304

Revision: 3

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JOINS DRG. 1304

JOINS DRG. 1306

ROAD 11

STAGE 4B

EXISTING SWALE TO BE REMOVED

BATTER 1:5 REFER TYPICAL CROSS SECTION ON DRAWING 1251.

TEMPORARY BENCHING 1 4 (TYP)

TEMPORARY FENCE TO BE ERECTED AT COMPLETION OF RETAINING WALL WORKS

PROVIDE FLUSHING POINT AT 40m SPACING. REFER DRG 2202 FOR DETAIL. (TYP)

FOR INDUSTRIAL LOTS, PROVIDE Ø375 PIPE STUB AT 1% MINIMUM GRADE FOR FUTURE CONNECTION. ALLOW MINIMUM 50mm DROP IN THE STORMWATER PIT. (TYP).

B01/20 B01/19 B01/18 B01/17 B01/16 B01/15A B13/1 B12/1

Ø525 Ø600 Ø375 Ø750 R-500.000 285°19'28"

4105 4104 4103 4102 4101 RW3

NORTH

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Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SITEWORKS AND STORMWATER PLAN
SHEET 5 OF 9

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Drawing Number: CV-CARDNO-S02-1305

Revision: 3

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

JOINS DRG. 1302

JOINS DRG. 1305

JOINS DRG. 1307

JOINS DRG. 1308

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ROAD 01

STAGE 2B

STAGE 4A

ROAD 11

ROAD 12

RW3

RW14

LOT 2

BATTER 1:5 REFER TYPICAL CROSS SECTION ON DRAWING 1251.

FOR INDUSTRIAL LOTS, PROVIDE Ø375 PIPE STUB AT 1% MINIMUM GRADE FOR FUTURE CONNECTION. ALLOW MINIMUM 50mm DROP IN THE STORMWATER PIT. (TYP).

PROVIDE FLUSHING POINT AT 40m SPACING. REFER DRG 2202 FOR DETAIL. (TYP)

TEMPORARY FENCE TO BE ERECTED AT COMPLETION OF RETAINING WALL WORKS

REFER DRAWING S02-2202 FOR INLET DETAIL.

RMS PEDESTRIAN FENCING.

ENSURE RETAINING WALL FOOTING ARE COORDINATED WITH PIPE CROSSING.

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Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SITEWORKS AND STORMWATER PLAN
SHEET 6 OF 9

Status: FOR APPROVAL
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JOINS DRG. 1305

JOINS DRG. 1303

REFER INSET A

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NORTH

LEVELS TO MATCH ADJOINING DEVELOPMENT

PROVIDE 1m BERM AND TEMPORARY INTERFACE WITH ADJOINING LANDOWNERS CONSENT

BATTER 1:5

ROAD 07

ROAD 10

ROAD 11

ROAD 13

STAGE 3

ROADWIDENING

RW14

RW04

LOT 2 (CONT.)

4000 (RESIDUE)

MAKE SMOOTH CONNECTION WITH EXISTING WORKS.

INSET A

SCALE 1:250

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Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SITEWORKS AND STORMWATER PLAN
SHEET 7 OF 9

Status: FOR APPROVAL
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Datum	Date	Scale	Size
AHD	Jul' 2021	1:250	A1

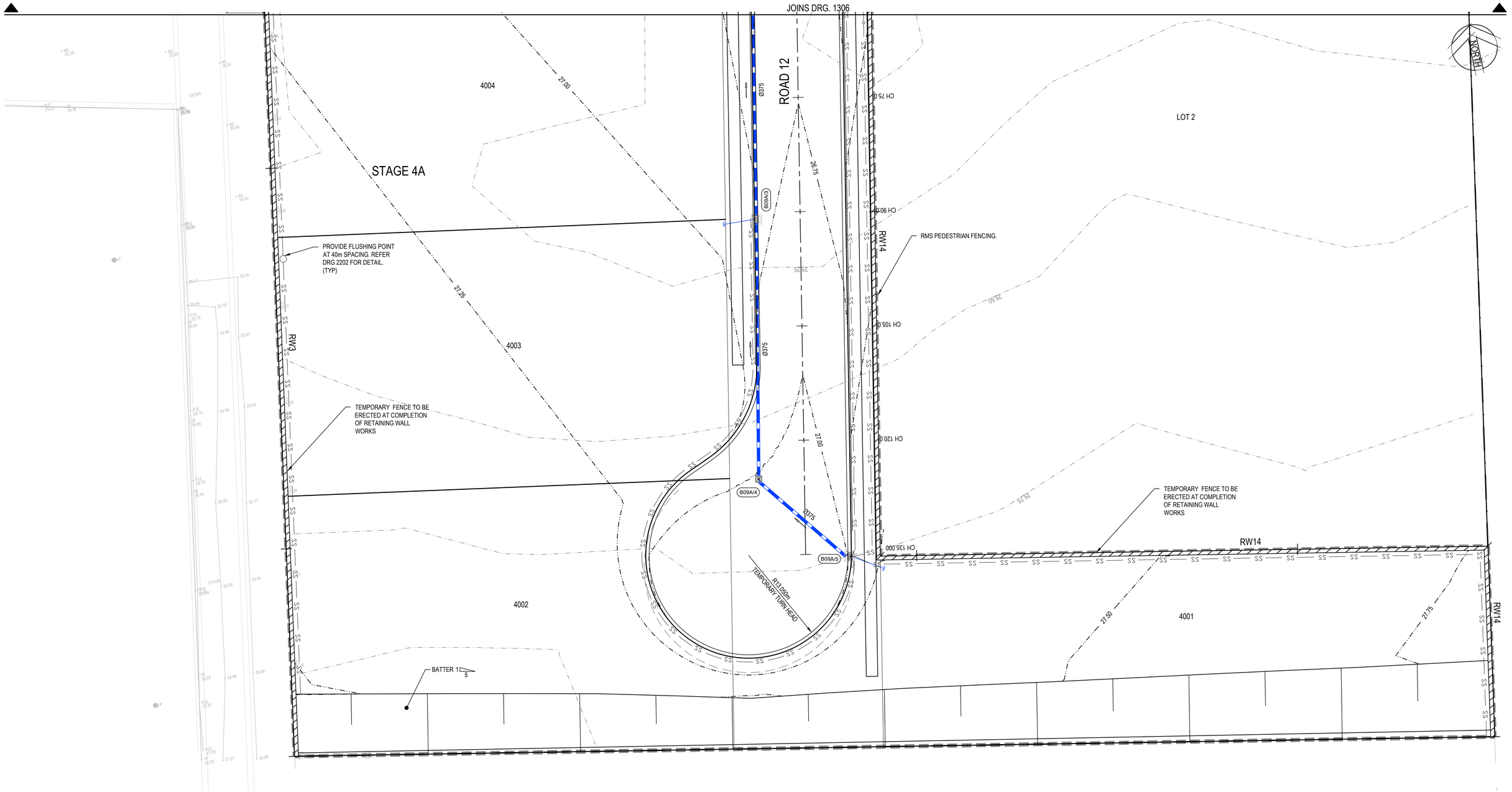
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Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SITEWORKS AND STORMWATER PLAN
SHEET 8 OF 9

Status: FOR APPROVAL
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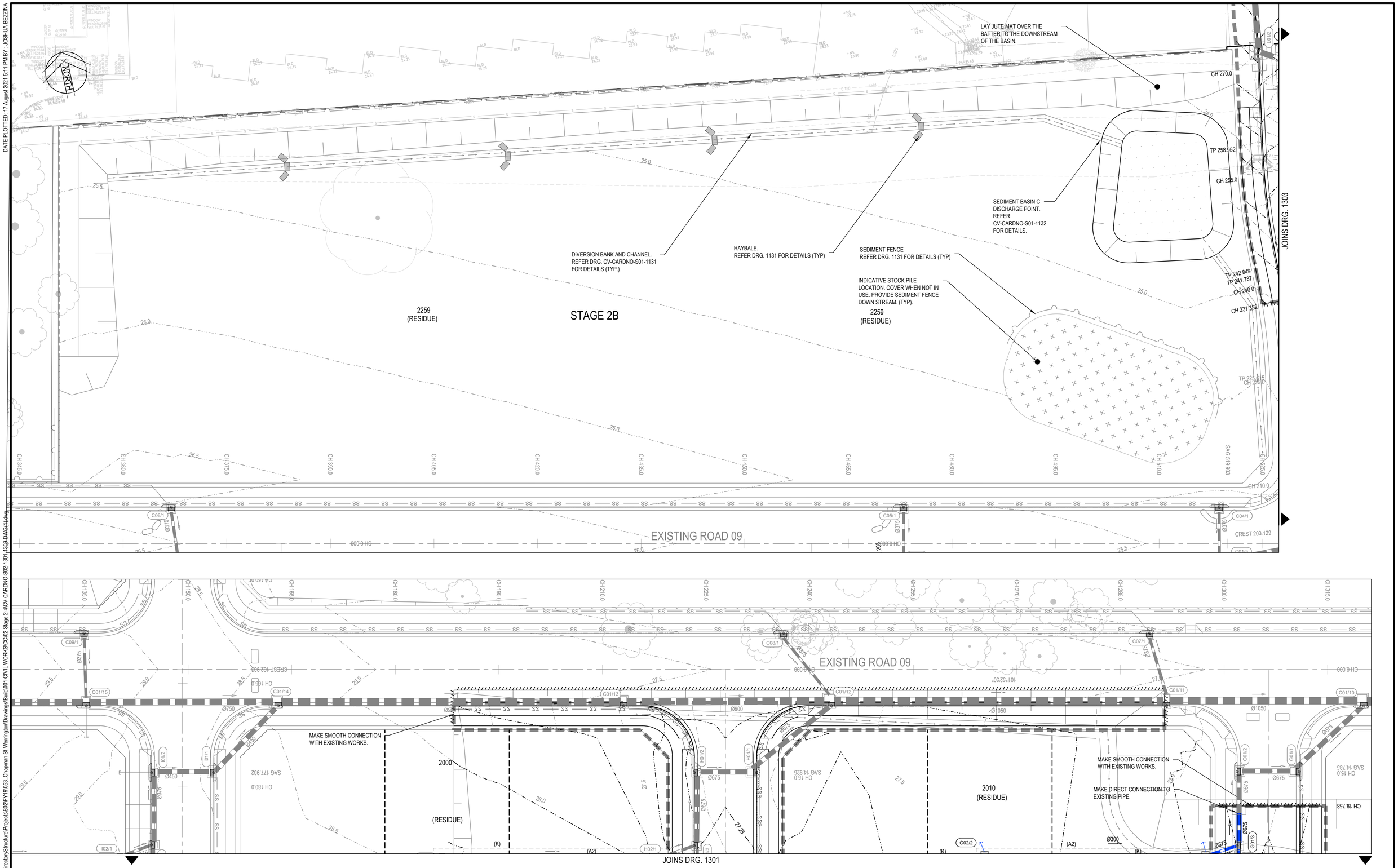
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SCALE 1:500 @A1

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Cardno
Shaping the Future
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Tel: 02 9496 7700 Fax: 02 9439 5170
Web: www.cardno.com.au

		Date
Drawn	WP	30/07/2021
Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SITEWORKS AND STORMWATER PLAN
SHEET 9 OF 9

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

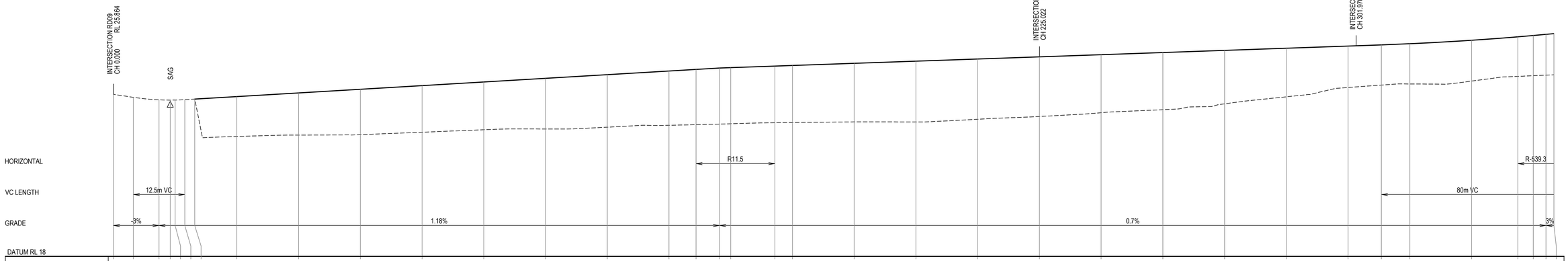
Datum	Date	Scale	Size
AHD	Jul' 2021	1:250	A1

Drawing Number: CV-CARDNO-S02-1309

Revision: 3

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

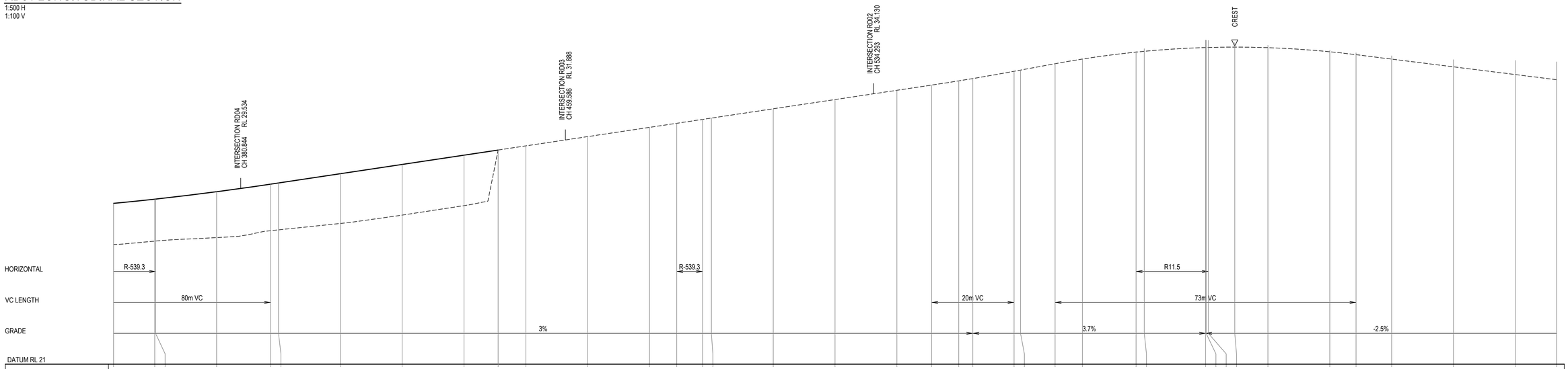
DATE PLOTTED: 17 August 2021 5:11 PM BY : JOSHUA BEZZINA



CHAINAGE	TP	0.000	4.848	11.098	13.819	15.000	17.348	19.777	30.000	45.000	60.000	75.000	90.000	105.000	120.000	135.000	TP	141.565	147.281	150.000	TP	160.724	165.000	180.000	195.000	210.000	225.000	240.000	255.000	270.000	285.000	300.000	308.091	315.000	330.000	TP	341.258	345.000	348.091	350.000
EXISTING SURFACE		25.864	25.718	25.596	25.584	25.586	25.605	25.633	23.819	23.885	23.908	24.025	24.144	24.182	24.270	24.361		24.390	24.420	24.437		24.485	24.494	24.527	24.524	24.654	24.789	24.971	25.118	25.403	25.743	26.195	26.311	26.367	26.506		26.735	26.767	26.795	26.812
DESIGN LEVEL		25.864	25.718	25.596	25.584	25.586	25.605	25.633	25.754	25.931	26.108	26.285	26.462	26.639	26.816	26.993		27.070	27.138	27.157		27.232	27.262	27.367	27.472	27.577	27.682	27.787	27.892	27.997	28.102	28.207	28.264	28.319	28.486		28.654	28.716	28.774	28.809
WAE LEVEL																																								-539.3 R

RD01 LONGITUDINAL SECTION

1:500 H
1:100 V



CHAINAGE	TP	350.000	360.000	360.188	375.000	388.091	390.000	405.000	420.000	435.000	443.275	450.000	465.000	480.000	TP	486.608	TP	492.866	495.000	510.000	525.000	540.000	548.415	555.000	558.415	568.415	570.000	578.380	585.000	598.025	TP	600.000	614.880	TP	615.000	615.532	621.944	630.000	645.000	651.380	660.000	675.000	690.000	700.000
EXISTING SURFACE		26.812	26.975	26.979	27.147	27.483	27.523	27.832	28.239	28.698	31.399	31.601	32.051	32.501		32.699		32.887	32.951	33.401	33.851	34.301	34.553	34.758	34.871	35.223	35.282	35.592	35.818	36.155		36.193	36.377		36.377	36.380	36.398	36.370	36.172	36.030	35.815	35.440	35.065	34.815
DESIGN LEVEL		28.809	29.014	29.018	29.376	29.744	29.801	30.251	30.701	31.151	31.399	31.601	32.051	32.501		32.699		32.887	32.951	33.401	33.851	34.301	34.553	34.758	34.871	35.223	35.282	35.592	35.818	36.155		36.193	36.377		36.377	36.380	36.398	36.370	36.172	36.030	35.815	35.440	35.065	34.815
WAE LEVEL																																											

RD01 LONGITUDINAL SECTION

1:500 H
1:100 V

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

H: 0 10 20 30 40 50m
V: 0 2 4 6 8 10m
SCALE: H:1:500 V:1:100 @A1

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Drawn	WP	30/07/2021
Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: ROAD LONGITUDINAL SECTION
RD01
SHEET 1 OF 5

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

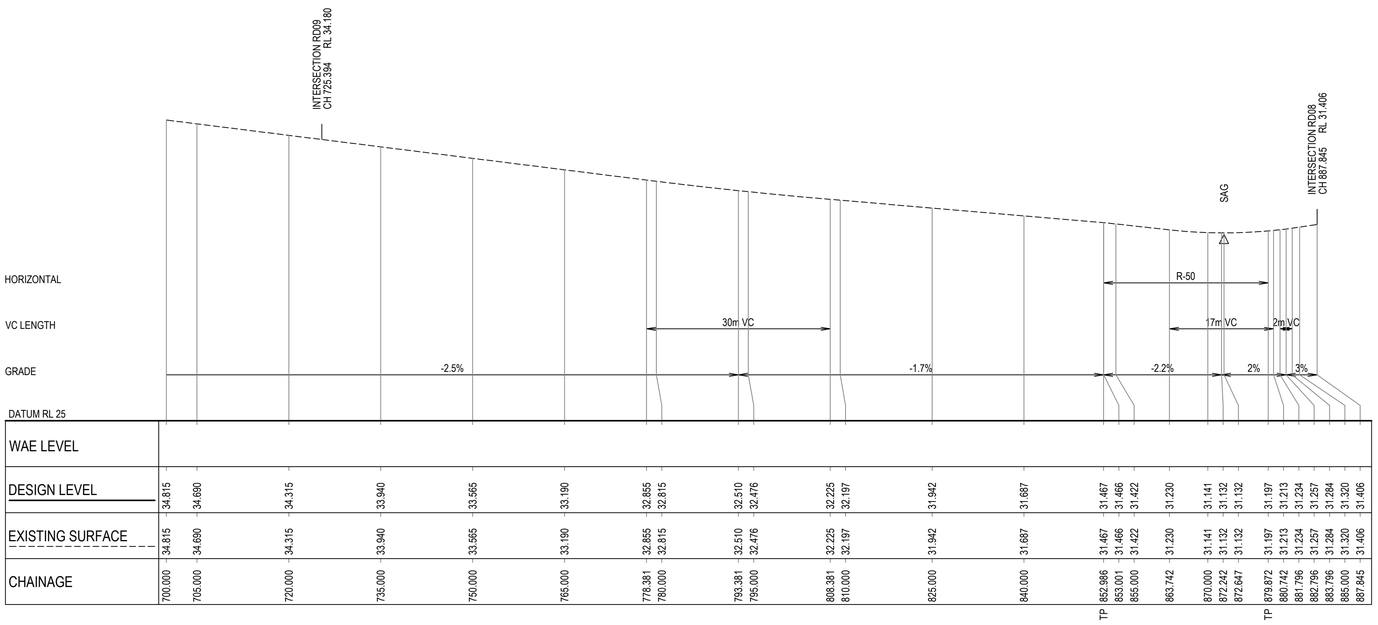
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AHD	Jul' 2021	AS SHOWN	A1

Drawing Number: CV-CARDNO-S02-1351
Revision: 3

XREFs:
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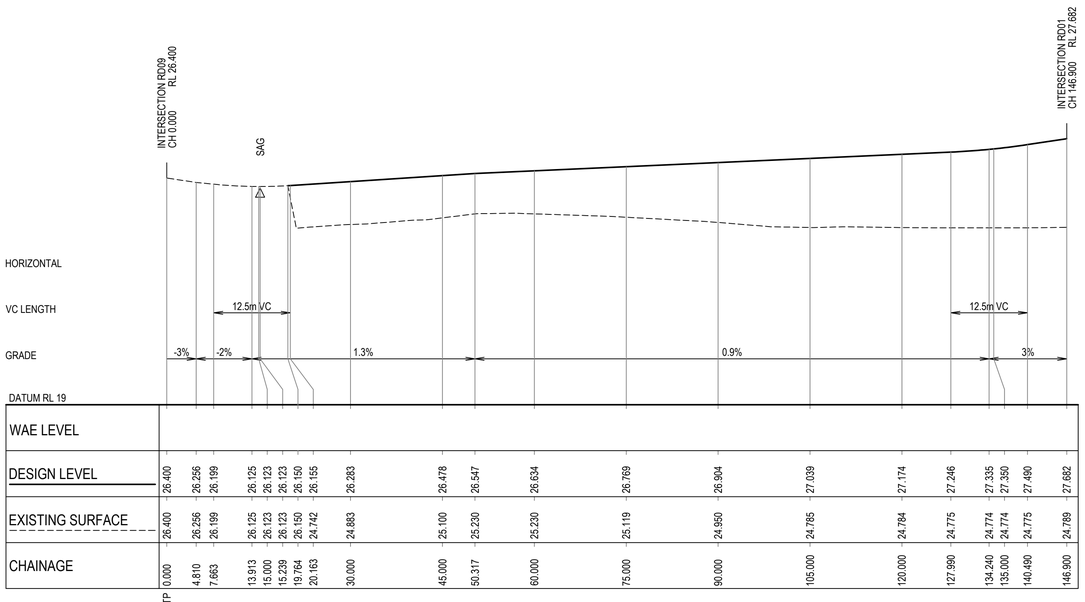
Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 17 August 2021 5:12 PM BY - JOSHUA BEZZINA



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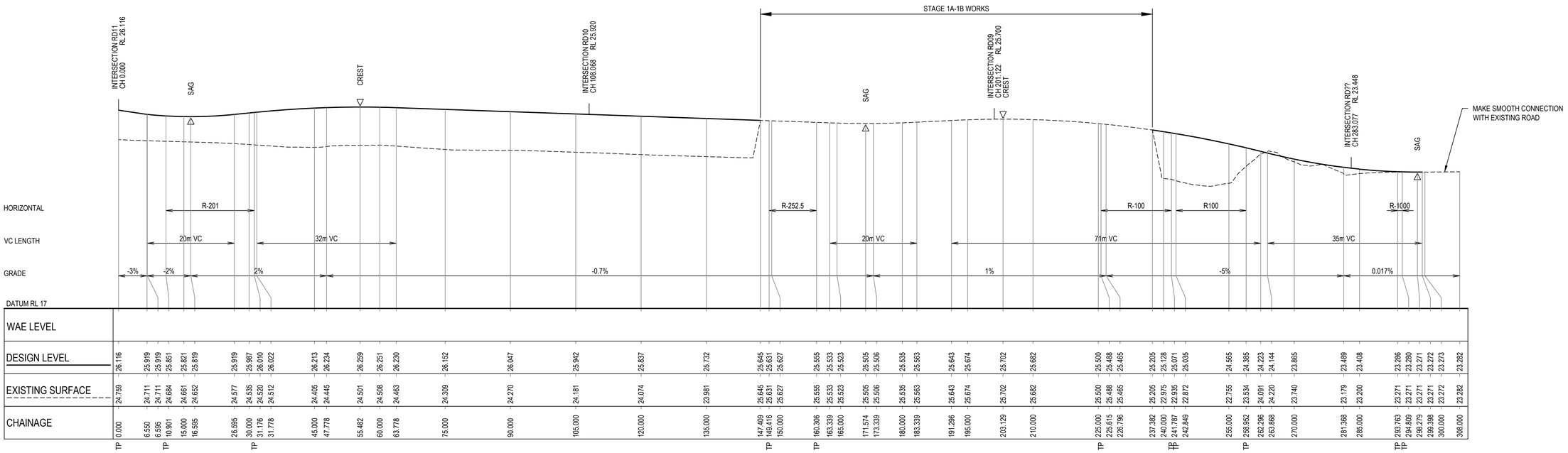
DATE PLOTTED: 17 August 2021 5:12 PM BY : JOSHUA BEZZINA



	TP																					
WAE LEVEL																						
DESIGN LEVEL	26.400	26.256	26.199	26.125	26.123	26.123	26.155	26.283	26.478	26.547	26.634	26.769	26.904	27.039	27.174	27.246	27.335	27.350	27.490	27.682		
EXISTING SURFACE	26.400	26.256	26.199	26.125	26.123	26.123	26.150	24.742	24.883	25.100	25.230	25.230	25.119	24.950	24.785	24.784	24.775	24.774	24.774	24.775	24.789	
CHAINAGE	0.000	4.810	7.663	13.913	15.000	15.239	19.764	20.163	30.000	45.000	50.317	60.000	75.000	90.000	105.000	120.000	127.990	134.240	135.000	140.490	146.900	

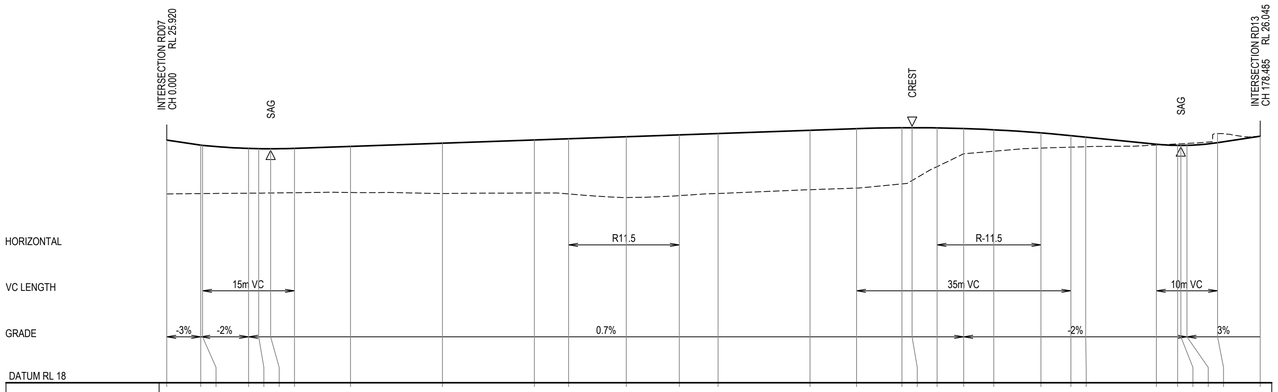
RD06 LONGITUDINAL SECTION

1:500 H
1:100 V



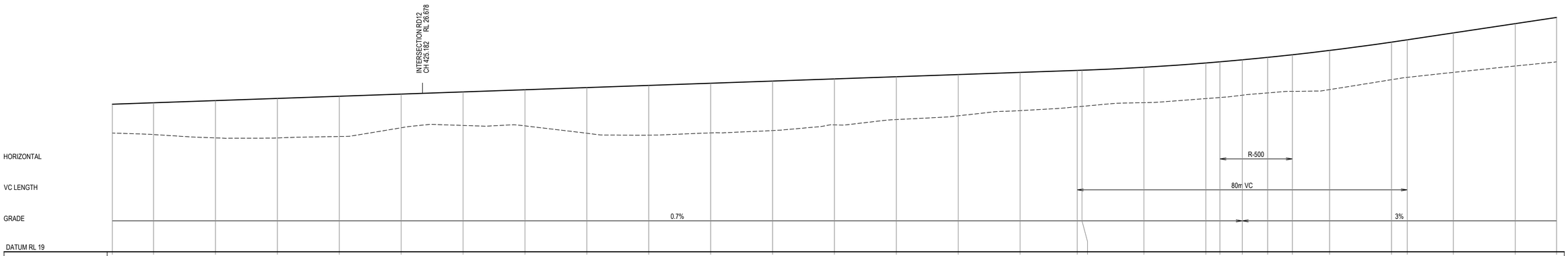
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DATE PLOTTED: 17 August 2021 5:12 PM BY: JOSHUA BEZZINA



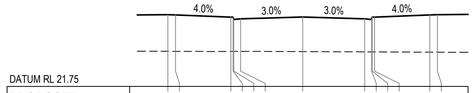
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DATE PLOTTED: 17 August 2021 5:13 PM BY - JOSHUA BEZZINA



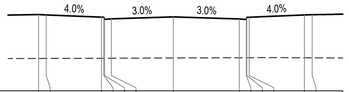
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DATE PLOTTED: 17 August 2021 5:13 PM BY: JOSHUA BEZZINA



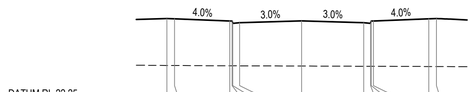
DATUM RL 21.75										
PROPOSED LEVEL	26.438	26.418	26.274	26.274	26.164	26.265	26.164	26.124	26.274	26.418	26.438
EXISTING LEVEL	24.04	24.04	24.03	24.03	24.04	24.02	24.01	24.00	24.00	23.99	23.98
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 75.000



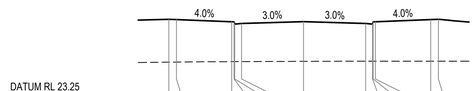
DATUM RL 22.25										
PROPOSED LEVEL	27.223	27.203	27.059	27.059	26.949	27.070	26.941	26.901	27.051	27.196	27.216
EXISTING LEVEL	24.36	24.36	24.37	24.37	24.38	24.39	24.41	24.41	24.41	24.40	24.40
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.310	4.760	4.800	4.950	8.560	9.060

CH 141.565



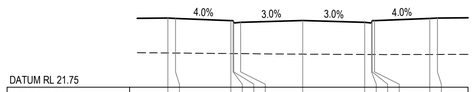
DATUM RL 22.25										
PROPOSED LEVEL	27.625	27.605	27.460	27.460	27.310	27.350	27.472	27.350	27.310	27.460	27.460	27.605	27.625
EXISTING LEVEL	24.56	24.56	24.54	24.54	24.54	24.54	24.52	24.51	24.51	24.51	24.51	24.49	24.49
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 195.000



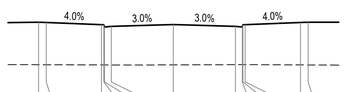
DATUM RL 23.25										
PROPOSED LEVEL	28.150	28.130	27.985	27.985	27.835	27.875	27.997	27.875	27.835	27.985	27.985	28.130	28.150
EXISTING LEVEL	25.35	25.35	25.38	25.38	25.38	25.39	25.40	25.41	25.41	25.41	25.41	25.41	25.41
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 270.000



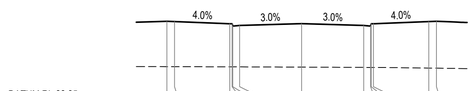
DATUM RL 21.75										
PROPOSED LEVEL	26.261	26.241	26.097	26.097	25.947	26.108	25.987	25.947	26.097	26.097	26.241	26.261
EXISTING LEVEL	23.99	23.98	23.95	23.95	23.94	23.91	23.89	23.89	23.89	23.88	23.89	23.89
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 60.000



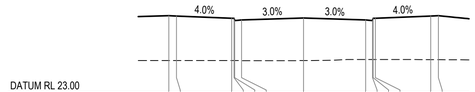
DATUM RL 22.25										
PROPOSED LEVEL	27.146	27.126	26.982	26.982	26.832	26.993	26.872	26.832	26.982	26.982	27.126	27.146
EXISTING LEVEL	24.37	24.37	24.36	24.36	24.36	24.36	24.38	24.38	24.38	24.38	24.36	24.36
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 135.000



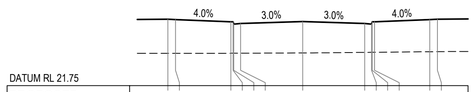
DATUM RL 22.25										
PROPOSED LEVEL	27.520	27.500	27.355	27.355	27.205	27.245	27.367	27.245	27.205	27.355	27.355	27.500	27.520
EXISTING LEVEL	24.56	24.56	24.55	24.54	24.54	24.54	24.53	24.51	24.51	24.51	24.51	24.46	24.46
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 180.000



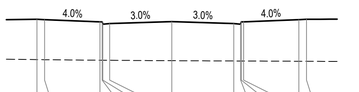
DATUM RL 23.00										
PROPOSED LEVEL	28.045	28.025	27.880	27.880	27.730	27.770	27.892	27.770	27.730	27.880	27.880	28.025	28.045
EXISTING LEVEL	25.12	25.12	25.12	25.12	25.12	25.11	25.12	25.18	25.18	25.18	25.18	25.18	25.17
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 255.000



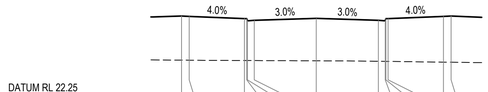
DATUM RL 21.75										
PROPOSED LEVEL	26.084	26.064	25.920	25.920	25.770	25.931	25.610	25.770	25.920	25.920	26.064	26.084
EXISTING LEVEL	23.86	23.86	23.87	23.87	23.87	23.89	23.92	23.93	23.93	23.93	23.96	23.97
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 45.000



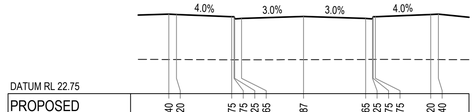
DATUM RL 22.00										
PROPOSED LEVEL	26.969	26.949	26.805	26.805	26.655	26.695	26.816	26.695	26.655	26.805	26.805	26.949	26.969
EXISTING LEVEL	24.34	24.33	24.30	24.30	24.30	24.30	24.27	24.25	24.25	24.25	24.25	24.23	24.23
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 120.000



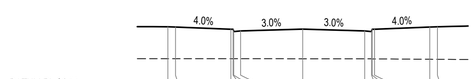
DATUM RL 22.25										
PROPOSED LEVEL	27.415	27.395	27.250	27.250	27.100	27.140	27.262	27.140	27.100	27.250	27.250	27.395	27.415
EXISTING LEVEL	24.54	24.53	24.51	24.51	24.51	24.51	24.49	24.46	24.46	24.46	24.46	24.41	24.40
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 165.000



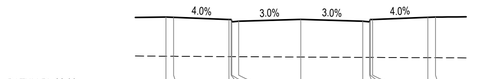
DATUM RL 22.75										
PROPOSED LEVEL	27.940	27.920	27.775	27.775	27.625	27.665	27.787	27.665	27.625	27.775	27.775	27.940	27.940
EXISTING LEVEL	24.98	24.98	24.96	24.96	24.96	24.96	24.97	24.98	24.99	24.99	24.99	24.98	24.98
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 240.000



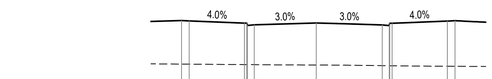
DATUM RL 21.75										
PROPOSED LEVEL	25.907	25.887	25.743	25.743	25.593	25.754	25.633	25.593	25.743	25.743	25.887	25.907
EXISTING LEVEL	23.83	23.82	23.82	23.82	23.82	23.82	23.81	23.81	23.81	23.81	23.79	23.78
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 30.000



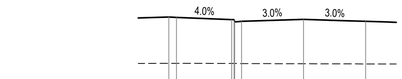
DATUM RL 22.00										
PROPOSED LEVEL	26.792	26.772	26.628	26.628	26.478	26.518	26.639	26.518	26.478	26.628	26.628	26.772	26.792
EXISTING LEVEL	24.24	24.23	24.21	24.21	24.21	24.20	24.18	24.16	24.16	24.16	24.16	24.14	24.14
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 105.000



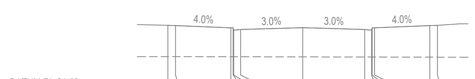
DATUM RL 22.25										
PROPOSED LEVEL	27.385	27.365	27.221	27.221	27.071	27.111	27.232	27.103	27.063	27.213	27.213	27.357	27.377
EXISTING LEVEL	24.54	24.54	24.51	24.51	24.51	24.51	24.48	24.44	24.44	24.44	24.44	24.41	24.40
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.310	4.760	4.800	4.950	8.560	9.060

CH 160.724



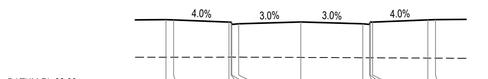
DATUM RL 22.75										
PROPOSED LEVEL	27.835	27.815	27.670	27.670	27.520	27.560	27.682	27.560		
EXISTING LEVEL	24.82	24.82	24.81	24.80	24.80	24.80	24.79	24.78		
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050		

CH 225.000



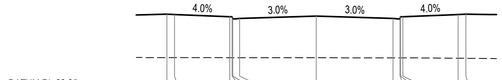
DATUM RL 21.50										
PROPOSED LEVEL	25.739	25.719	25.575	25.575	25.425	25.465	25.586	25.465	25.425	25.575	25.575	25.719	25.739
EXISTING LEVEL	23.70	23.70	23.69	23.69	23.67	23.69	23.68	23.67	23.67	23.67	23.67	23.66	23.66
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 15.000



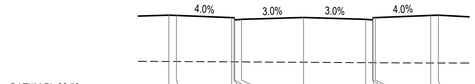
DATUM RL 22.00										
PROPOSED LEVEL	26.615	26.595	26.451	26.451	26.301	26.341	26.462	26.341	26.301	26.451	26.451	26.595	26.615
EXISTING LEVEL	24.16	24.16	24.16	24.16	24.16	24.16	24.14	24.13	24.12	24.12	24.12	24.10	24.10
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 90.000



DATUM RL 22.25										
PROPOSED LEVEL	27.281	27.261	27.117	27.117	26.987	27.007	27.157	27.007	26.987	27.117	27.117	27.261	27.281
EXISTING LEVEL	24.45	24.45	24.44	24.44	24.44	24.44	24.44	24.43	24.43	24.43	24.43	24.41	24.40
OFFSET	-9.755	-9.255	-5.645	-5.495	-5.455	-5.005	0.000	5.013	5.463	5.503	5.653	9.253	9.763

CH 150.000



DATUM RL 22.50										
PROPOSED LEVEL	27.730	27.710	27.565	27.565	27.415	27.455	27.577	27.455	27.415	27.565	27.565	27.710	27.730
EXISTING LEVEL	24.71	24.70	24.68	24.68	24.68	24.68	24.65	24.63	24.63	24.63	24.63	24.60	24.60
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 210.000

ROAD 01 CROSS SECTIONS

Rev.	Date	Description	Des.	Verif.	Appd.
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

SCALE 1:200 — 0 5 10 15 20m — @A1

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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: ROAD CROSS SECTION
SHEET 1 OF 11

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

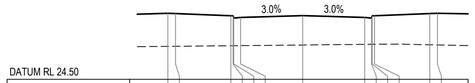
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AHD	Jul' 2021	1:200	A1

Drawing Number: CV-CARDNO-S02-1401
Revision: 2

XREFs: XR-80219053-001-1AB-CC-CI-LOGO
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Version: 1, Version Date: 16/03/2022

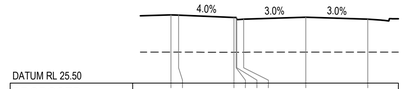
DATE PLOTTED: 17 August 2021 5:13 PM BY - JOSHUA BEZZINA



DATUM RL 24.50

PROPOSED LEVEL	28.807	28.787	28.642	28.642	28.492	28.532	28.654	28.532	28.492	28.642	28.787	28.807
EXISTING LEVEL	26.65	26.65	26.69	26.69	26.69	26.70	26.74	26.78	26.78	26.79	26.75	26.74
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	8.300	8.800

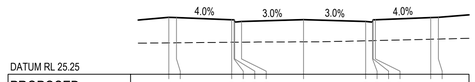
CH 341.258



DATUM RL 25.50

PROPOSED LEVEL	29.954	29.934	29.789	29.789	29.639	29.679	29.801	29.679	29.639	29.789	29.789	29.954
EXISTING LEVEL	27.52	27.52	27.52	27.52	27.52	27.52	27.52	27.52	27.52	27.52	27.52	27.52
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

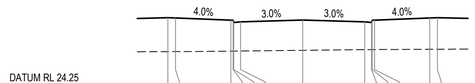
CH 390.000



DATUM RL 25.25

PROPOSED LEVEL	28.964	28.944	28.800	28.800	28.650	28.690	28.811	28.690	28.650	28.800	28.800	28.964	28.964
EXISTING LEVEL	27.30	27.30	27.34	27.34	27.34	27.34	27.36	27.43	27.44	27.44	27.45	27.53	27.55
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

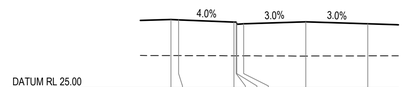
CH 90.000



DATUM RL 24.25

PROPOSED LEVEL	28.639	28.619	28.474	28.474	28.324	28.364	28.486	28.364	28.324	28.474	28.474	28.619	28.639
EXISTING LEVEL	26.42	26.42	26.45	26.45	26.46	26.46	26.51	26.55	26.56	26.56	26.56	26.58	26.58
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

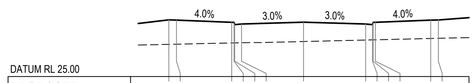
CH 330.000



DATUM RL 25.00

PROPOSED LEVEL	29.528	29.508	29.364	29.364	29.214	29.254	29.376	29.254	29.214	29.364	29.364	29.528
EXISTING LEVEL	27.18	27.17	27.16	27.16	27.16	27.16	27.15	27.16	27.16	27.16	27.16	27.18
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

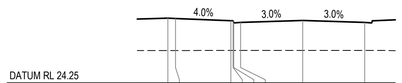
CH 375.000



DATUM RL 25.00

PROPOSED LEVEL	28.698	28.678	28.534	28.534	28.384	28.424	28.545	28.424	28.384	28.534	28.534	28.678	28.698
EXISTING LEVEL	27.10	27.11	27.19	27.19	27.19	27.20	27.28	27.38	27.39	27.39	27.39	27.48	27.49
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

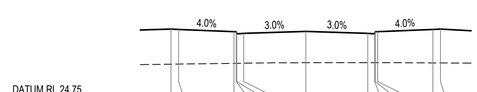
CH 75.000



DATUM RL 24.25

PROPOSED LEVEL	28.472	28.452	28.307	28.307	28.157	28.197	28.319	28.197	28.157	28.307	28.307	28.472
EXISTING LEVEL	26.36	26.36	26.37	26.37	26.37	26.37	26.37	26.37	26.37	26.37	26.37	26.36
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

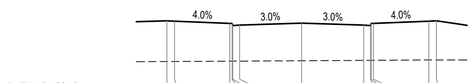
CH 315.000



DATUM RL 24.75

PROPOSED LEVEL	29.171	29.151	29.007	29.007	28.857	28.897	29.018	28.897	28.857	29.007	29.007	29.151	29.171
EXISTING LEVEL	26.88	26.89	26.94	26.94	26.94	26.95	26.98	26.98	26.98	26.98	26.98	26.97	26.96
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

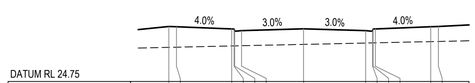
CH 360.188



DATUM RL 26.50

PROPOSED LEVEL	31.304	31.284	31.139	31.139	30.989	31.029	31.151	31.029	30.989	31.139	31.139	31.284	31.304
EXISTING LEVEL	28.65	28.65	28.67	28.67	28.67	28.67	28.70	28.72	28.73	28.73	28.73	28.75	28.75
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

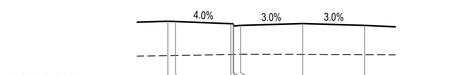
CH 435.000



DATUM RL 24.75

PROPOSED LEVEL	28.341	28.321	28.177	28.177	28.027	28.067	28.188	28.067	28.027	28.177	28.177	28.321	28.341
EXISTING LEVEL	26.98	26.99	27.07	27.07	27.07	27.08	27.17	27.26	27.27	27.27	27.27	27.35	27.36
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

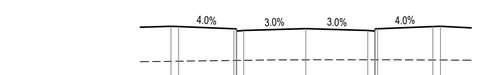
CH 60.000



DATUM RL 24.00

PROPOSED LEVEL	28.360	28.340	28.195	28.195	28.045	28.085	28.207	28.085	28.045	28.195	28.195	28.360	28.340
EXISTING LEVEL	26.12	26.12	26.19	26.19	26.19	26.20	26.20	26.18	26.18	26.18	26.18	26.18	26.18
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

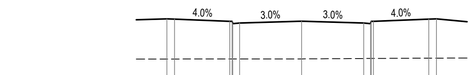
CH 300.000



DATUM RL 24.75

PROPOSED LEVEL	29.167	29.147	29.003	29.003	28.853	28.893	29.014	28.893	28.853	29.003	29.003	29.147	29.167
EXISTING LEVEL	26.88	26.89	26.93	26.93	26.94	26.94	26.98	26.98	26.98	26.98	26.98	26.96	26.96
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

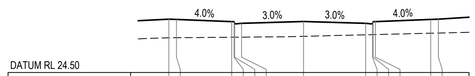
CH 360.000



DATUM RL 26.00

PROPOSED LEVEL	30.854	30.834	30.689	30.689	30.539	30.579	30.701	30.579	30.539	30.689	30.689	30.834	30.854
EXISTING LEVEL	28.23	28.23	28.23	28.23	28.23	28.23	28.24	28.26	28.27	28.27	28.27	28.29	28.29
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

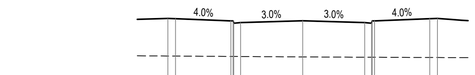
CH 420.000



DATUM RL 24.50

PROPOSED LEVEL	27.981	27.961	27.817	27.817	27.667	27.707	27.828	27.707	27.667	27.817	27.817	27.961	27.981
EXISTING LEVEL	26.76	26.77	26.80	26.80	26.80	26.80	26.86	26.96	26.97	26.97	26.97	27.06	27.07
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

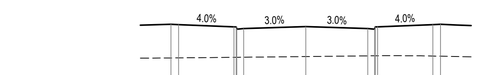
CH 45.000



DATUM RL 23.50

PROPOSED LEVEL	28.255	28.235	28.090	28.090	27.940	27.980	28.102	27.980	27.940	28.090	28.090	28.235	28.255
EXISTING LEVEL	25.80	25.80	25.77	25.77	25.77	25.77	25.74	25.72	25.72	25.72	25.72	25.71	25.70
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

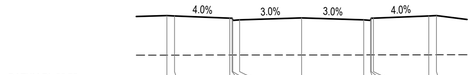
CH 285.000



DATUM RL 24.50

PROPOSED LEVEL	28.871	28.851	28.706	28.706	28.556	28.596	28.718	28.596	28.556	28.706	28.706	28.851	28.871
EXISTING LEVEL	26.68	26.68	26.72	26.72	26.72	26.72	26.77	26.81	26.82	26.82	26.82	26.80	26.79
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

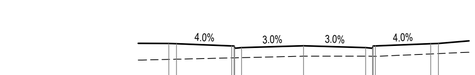
CH 345.000



DATUM RL 25.75

PROPOSED LEVEL	30.404	30.384	30.239	30.239	30.089	30.129	30.251	30.129	30.089	30.239	30.239	30.384	30.404
EXISTING LEVEL	27.83	27.83	27.83	27.83	27.83	27.83	27.83	27.84	27.84	27.84	27.84	27.84	27.84
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 405.000



DATUM RL 24.50

PROPOSED LEVEL	27.621	27.601	27.457	27.457	27.307	27.347	27.468	27.347	27.307	27.457	27.457	27.601	27.621
EXISTING LEVEL	26.58	26.59	26.68	26.68	26.68	26.70	26.79	26.79	26.79	26.79	26.79	26.94	26.96
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 30.000

ROAD 01 CROSS SECTIONS

ROAD 04 CROSS SECTIONS

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

SCALE 1:200 (0, 5, 10, 15, 20m) @A1

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		Date
Drawn	WP	30/07/2021
Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: ROAD CROSS SECTION
SHEET 2 OF 11

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

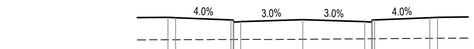
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Drawing Number: CV-CARDNO-S02-1402
Revision: 3

XREF's: XR-80219053-001-1AB-CC-CI-LOGO
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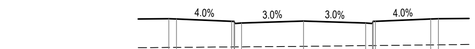
Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 17 August 2021 5:13 PM BY: JOSHUA BEZZINA



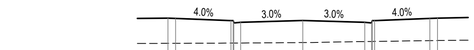
DATUM RL 23.75												
PROPOSED LEVEL	27.280	27.260	27.115	27.115	26.965	27.005	27.127	27.005	26.865	27.115	27.115	27.260	27.280
EXISTING LEVEL	25.82	25.82	25.83	25.84	25.84	25.84	25.85	25.88	25.88	25.88	25.88	25.91	25.92
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 60.000



DATUM RL 23.00												
PROPOSED LEVEL	26.922	26.902	26.758	26.758	26.608	26.648	26.769	26.648	26.608	26.758	26.758	26.902	26.922
EXISTING LEVEL	25.05	25.05	25.08	25.08	25.08	25.09	25.12	25.17	25.17	25.17	25.17	25.21	25.22
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 75.000



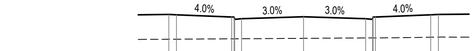
DATUM RL 23.25												
PROPOSED LEVEL	27.122	27.102	26.958	26.958	26.808	26.848	26.969	26.848	26.808	26.958	26.958	27.102	27.122
EXISTING LEVEL	25.48	25.48	25.49	25.49	25.49	25.50	25.53	25.59	25.60	25.60	25.60	25.65	25.66
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 45.000



DATUM RL 23.75												
PROPOSED LEVEL	27.910	27.890	27.745	27.745	27.595	27.635	27.757	27.635	27.595	27.745	27.745	27.890	27.910
EXISTING LEVEL	25.98	25.98	26.01	26.01	26.01	26.01	26.05	26.09	26.10	26.10	26.10	26.18	26.19
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 120.000



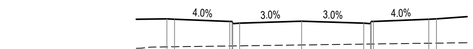
DATUM RL 23.00												
PROPOSED LEVEL	26.787	26.767	26.623	26.623	26.473	26.513	26.634	26.513	26.473	26.623	26.623	26.767	26.787
EXISTING LEVEL	25.17	25.18	25.20	25.20	25.20	25.20	25.23	25.26	25.26	25.26	25.26	25.30	25.31
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 60.000



DATUM RL 23.00												
PROPOSED LEVEL	26.965	26.945	26.800	26.800	26.650	26.690	26.612	26.690	26.650	26.800	26.800	26.945	26.965
EXISTING LEVEL	25.18	25.19	25.22	25.22	25.22	25.22	25.26	25.29	25.29	25.29	25.30	25.33	25.34
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 30.000



DATUM RL 23.75												
PROPOSED LEVEL	27.752	27.732	27.588	27.588	27.438	27.478	27.599	27.478	27.438	27.588	27.588	27.732	27.752
EXISTING LEVEL	25.93	25.93	25.98	25.99	25.99	25.99	26.05	26.11	26.11	26.11	26.11	26.15	26.17
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 105.000



DATUM RL 22.75												
PROPOSED LEVEL	26.631	26.611	26.466	26.466	26.316	26.356	26.478	26.356	26.316	26.466	26.466	26.611	26.631
EXISTING LEVEL	25.16	25.15	25.13	25.13	25.13	25.13	25.10	25.07	25.07	25.07	25.07	25.03	25.02
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 45.000



DATUM RL 25.00												
PROPOSED LEVEL	29.349	29.329	29.184	29.184	29.034	29.074	29.196	29.074	29.034	29.184	29.184	29.329	29.349
EXISTING LEVEL	27.17	27.17	27.19	27.19	27.20	27.20	27.29	27.42	27.43	27.43	27.44	27.53	27.54
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 120.000



DATUM RL 23.00												
PROPOSED LEVEL	26.843	26.823	26.679	26.679	26.529	26.569	26.675	26.553	26.513	26.663	26.663	26.808	26.828
EXISTING LEVEL	25.13	25.13	25.20	25.20	25.21	25.21	25.28	25.35	25.36	25.36	25.36	25.41	25.42
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 15.000



DATUM RL 24.00												
PROPOSED LEVEL	27.595	27.575	27.430	27.430	27.280	27.320	27.442	27.320	27.280	27.430	27.430	27.575	27.595
EXISTING LEVEL	26.20	26.20	26.24	26.24	26.24	26.24	26.28	26.32	26.33	26.33	26.33	26.34	26.34
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 90.000



DATUM RL 22.75												
PROPOSED LEVEL	26.436	26.416	26.271	26.271	26.121	26.161	26.283	26.161	26.121	26.271	26.271	26.416	26.436
EXISTING LEVEL	24.93	24.93	24.91	24.91	24.91	24.91	24.88	24.85	24.84	24.84	24.84	24.80	24.79
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 30.000



DATUM RL 25.00												
PROPOSED LEVEL	29.152	29.132	28.988	28.988	28.838	28.878	28.999	28.878	28.838	28.988	28.988	29.132	29.152
EXISTING LEVEL	27.23	27.21	27.27	27.28	27.28	27.29	27.36	27.44	27.45	27.45	27.45	27.55	27.56
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 105.000



DATUM RL 23.00												
PROPOSED LEVEL	26.844	26.824	26.679	26.679	26.529	26.569	26.675	26.553	26.513	26.663	26.663	26.807	26.827
EXISTING LEVEL	25.12	25.13	25.20	25.20	25.20	25.21	25.28	25.35	25.35	25.36	25.36	25.41	25.42
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 14.785



DATUM RL 24.00												
PROPOSED LEVEL	27.437	27.417	27.273	27.273	27.123	27.163	27.284	27.163	27.123	27.273	27.273	27.417	27.437
EXISTING LEVEL	26.18	26.19	26.22	26.22	26.22	26.22	26.21	26.20	26.20	26.20	26.20	26.19	26.20
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 75.000



DATUM RL 22.50												
PROPOSED LEVEL	26.307	26.287	26.143	26.143	25.993	26.033	26.123	26.002	25.962	26.112	26.112	26.256	26.276
EXISTING LEVEL	24.76	24.75	24.71	24.71	24.71	24.70	24.66	24.64	24.64	24.64	24.64	24.63	24.63
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 15.000

ROAD 04 CROSS SECTIONS

ROAD 05 CROSS SECTIONS

ROAD 06 CROSS SECTIONS

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

SCALE 1:200 — 0 5 10 15 20m — @A1

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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: ROAD CROSS SECTION
SHEET 3 OF 11

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

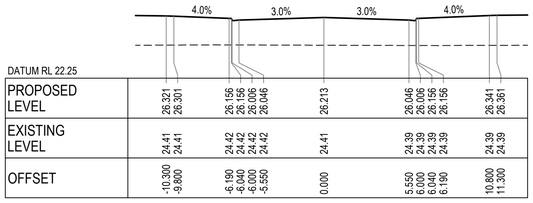
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AHD	Jul' 2021	1:200	A1

Drawing Number: CV-CARDNO-S02-1403
Revision: 3

XREFs: XR-80219053-001-1AB-CC-CI-LOGO
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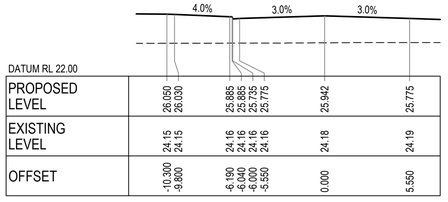
Document Set ID: 9948076
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DATE PLOTTED: 17 August 2021 5:14 PM BY: JOSHUA BEZZINA



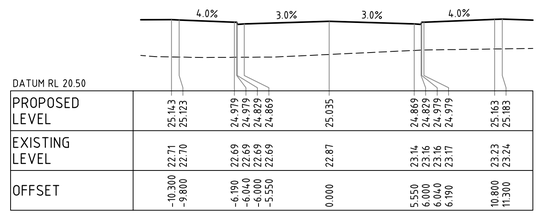
DATUM RL 22.25																							
PROPOSED LEVEL	26.321	26.301	26.156	26.106	26.085	26.046	26.213										26.046	26.006	26.156	26.156	26.341	26.361	
EXISTING LEVEL	24.41	24.41	24.42	24.42	24.42	24.42	24.41										24.39	24.39	24.39	24.39	24.39	24.39	
OFFSET	-10.300	-9.800	-6.190	-6.040	-6.000	-5.550	0.000										5.550	6.000	6.040	6.190	10.800	11.300	

CH 45.000



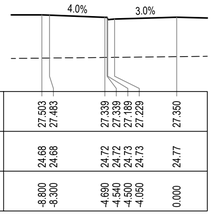
DATUM RL 22.00																							
PROPOSED LEVEL	26.050	26.030	25.885	25.885	25.735	25.775	25.942										25.775						
EXISTING LEVEL	24.15	24.15	24.16	24.16	24.16	24.16	24.18										24.19						
OFFSET	-10.300	-9.800	-6.190	-6.040	-6.000	-5.550	0.000										5.550						

CH 105.000



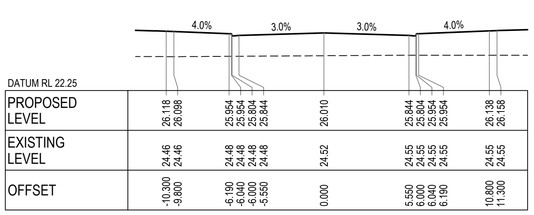
DATUM RL 20.50																							
PROPOSED LEVEL	25.143	25.123	24.979	24.979	24.829	24.869	25.035										24.869	24.829	24.979	24.979	25.163	25.183	
EXISTING LEVEL	22.71	22.70	22.69	22.69	22.69	22.69	22.87										23.14	23.16	23.16	23.17	23.23	23.24	
OFFSET	-10.300	-9.800	-6.190	-6.040	-6.000	-5.550	0.000										5.550	6.000	6.040	6.190	10.800	11.300	

CH 242.849



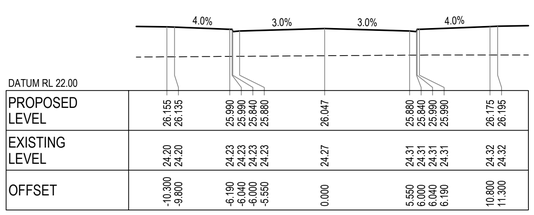
DATUM RL 22.50																							
PROPOSED LEVEL	27.503	27.483	27.339	27.339	27.289	27.229	27.350																
EXISTING LEVEL	24.68	24.68	24.72	24.72	24.75	24.73	24.77																
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.390	-4.050	0.000																

CH 135.000



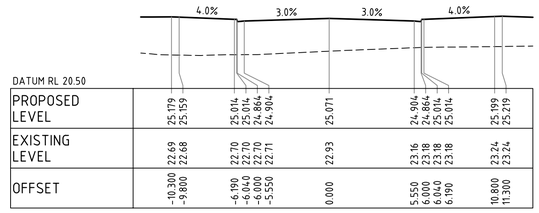
DATUM RL 22.25																							
PROPOSED LEVEL	26.118	26.098	25.954	25.904	25.854	25.844	26.010										25.844	25.804	25.954	25.954	26.138	26.158	
EXISTING LEVEL	24.46	24.46	24.48	24.48	24.48	24.48	24.52										24.55	24.55	24.55	24.55	24.55	24.55	
OFFSET	-10.300	-9.800	-6.190	-6.040	-6.000	-5.550	0.000										5.550	6.000	6.040	6.190	10.800	11.300	

CH 31.176



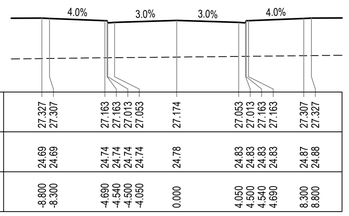
DATUM RL 22.00																							
PROPOSED LEVEL	26.155	26.135	25.990	25.990	25.840	25.880	26.047										25.880	25.840	25.990	25.990	26.175	26.195	
EXISTING LEVEL	24.20	24.20	24.23	24.23	24.23	24.23	24.27										24.31	24.31	24.31	24.31	24.32	24.32	
OFFSET	-10.300	-9.800	-6.190	-6.040	-6.000	-5.550	0.000										5.550	6.000	6.040	6.190	10.800	11.300	

CH 90.000



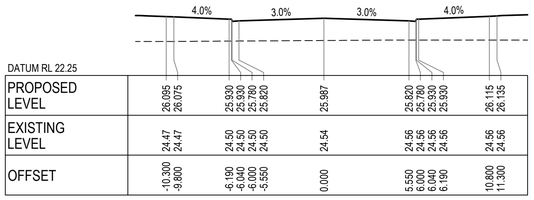
DATUM RL 20.50																							
PROPOSED LEVEL	25.179	25.159	25.014	25.014	24.864	24.904	25.071										24.904	24.864	25.014	25.014	25.199	25.219	
EXISTING LEVEL	22.69	22.68	22.70	22.70	22.70	22.71	22.93										23.16	23.18	23.18	23.18	23.24	23.24	
OFFSET	-10.300	-9.800	-6.190	-6.040	-6.000	-5.550	0.000										5.550	6.000	6.040	6.190	10.800	11.300	

CH 241.787



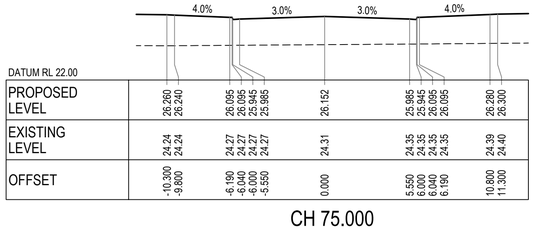
DATUM RL 22.50																							
PROPOSED LEVEL	27.327	27.307	27.163	27.163	27.013	27.053	27.174										27.053	27.013	27.163	27.163	27.307	27.327	
EXISTING LEVEL	24.69	24.69	24.74	24.74	24.74	24.74	24.78										24.83	24.83	24.83	24.83	24.87	24.88	
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.390	-4.050	0.000										4.050	4.500	4.540	4.690	8.300	8.800	

CH 120.000



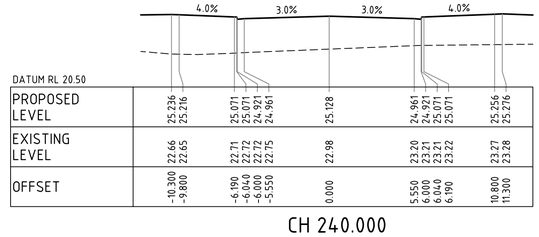
DATUM RL 22.25																							
PROPOSED LEVEL	26.095	26.075	25.930	25.780	25.630	25.820	25.987										25.820	25.780	25.930	25.930	26.115	26.135	
EXISTING LEVEL	24.47	24.47	24.50	24.50	24.50	24.50	24.54										24.56	24.56	24.56	24.56	24.56	24.56	
OFFSET	-10.300	-9.800	-6.190	-6.040	-6.000	-5.550	0.000										5.550	6.000	6.040	6.190	10.800	11.300	

CH 30.000



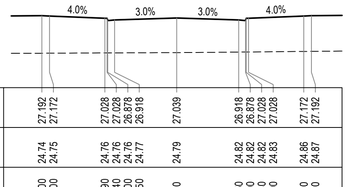
DATUM RL 22.00																							
PROPOSED LEVEL	26.260	26.240	26.095	26.095	25.945	25.985	26.152										25.985	25.945	26.095	26.095	26.280	26.300	
EXISTING LEVEL	24.24	24.24	24.27	24.27	24.27	24.27	24.31										24.35	24.35	24.35	24.35	24.39	24.40	
OFFSET	-10.300	-9.800	-6.190	-6.040	-6.000	-5.550	0.000										5.550	6.000	6.040	6.190	10.800	11.300	

CH 75.000



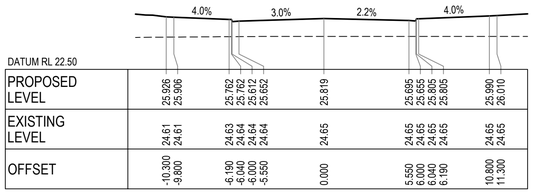
DATUM RL 20.50																							
PROPOSED LEVEL	25.236	25.216	25.071	25.071	24.921	24.961	25.128										24.961	24.921	25.071	25.071	25.256	25.276	
EXISTING LEVEL	22.66	22.65	22.71	22.72	22.72	22.75	22.98										23.20	23.21	23.21	23.22	23.27	23.28	
OFFSET	-10.300	-9.800	-6.190	-6.040	-6.000	-5.550	0.000										5.550	6.000	6.040	6.190	10.800	11.300	

CH 240.000



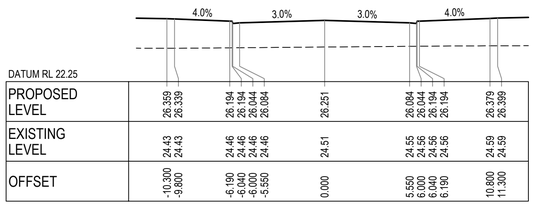
DATUM RL 22.50																							
PROPOSED LEVEL	27.192	27.172	27.028	27.028	26.878	26.918	27.039										26.918	26.878	27.028	27.028	27.172	27.192	
EXISTING LEVEL	24.74	24.75	24.76	24.76	24.76	24.77	24.79										24.82	24.82	24.82	24.83	24.86	24.87	
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.390	-4.050	0.000										4.050	4.500	4.540	4.690	8.300	8.800	

CH 105.000



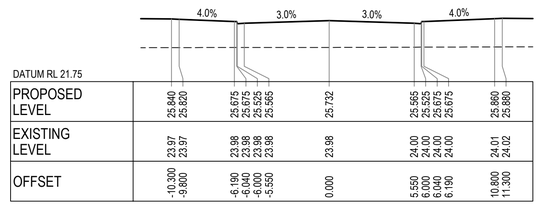
DATUM RL 22.50																							
PROPOSED LEVEL	25.926	25.906	25.762	25.712	25.612	25.652	25.819										25.695	25.655	25.805	25.805	25.990	26.010	
EXISTING LEVEL	24.61	24.61	24.63	24.64	24.64	24.64	24.65										24.65	24.65	24.65	24.65	24.65	24.65	
OFFSET	-10.300	-9.800	-6.190	-6.040	-6.000	-5.550	0.000										5.550	6.000	6.040	6.190	10.800	11.300	

CH 16.595



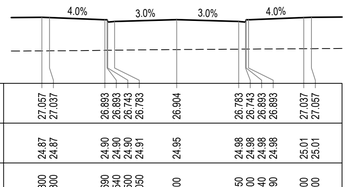
DATUM RL 22.25																							
PROPOSED LEVEL	26.399	26.339	26.194	26.194	26.044	26.084	26.251										26.084	26.044	26.194	26.194	26.379	26.399	
EXISTING LEVEL	24.43	24.43	24.46	24.46	24.46	24.46	24.51										24.55	24.56	24.56	24.56	24.59	24.59	
OFFSET	-10.300	-9.800	-6.190	-6.040	-6.000	-5.550	0.000										5.550	6.000	6.040	6.190	10.800	11.300	

CH 60.000



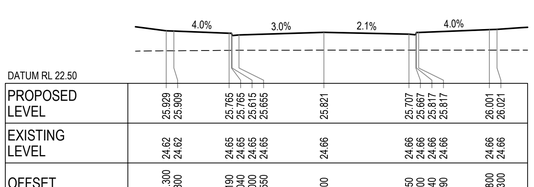
DATUM RL 21.75																							
PROPOSED LEVEL	25.840	25.820	25.675	25.675	25.525	25.565	25.732										25.565	25.525	25.675	25.675	25.860	25.880	
EXISTING LEVEL	23.97	23.97	23.98	23.98	23.98	23.98	23.98										24.00	24.00	24.00	24.00	24.01	24.02	
OFFSET	-10.300	-9.800	-6.190	-6.040	-6.000	-5.550	0.000										5.550	6.000	6.040	6.190	10.800	11.300	

CH 135.000



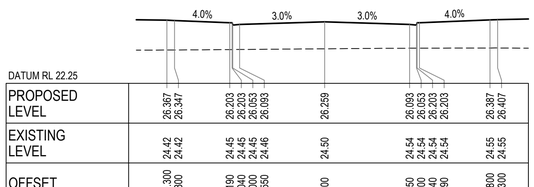
DATUM RL 22.75																							
PROPOSED LEVEL	27.057	27.037	26.893	26.893	26.743	26.783	26.904										26.783	26.743	26.893	26.893	27.037	27.057	
EXISTING LEVEL	24.87	24.87	24.90	24.90	24.90	24.91	24.95										24.98	24.98	24.98	24.98	25.01	25.01	
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.390	-4.050	0.000										4.050	4.500	4.540	4.690	8.300	8.800	

CH 90.000



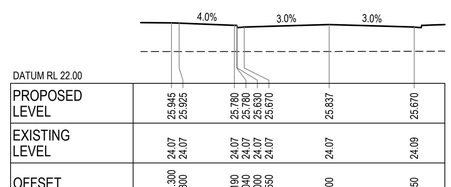
DATUM RL 22.50																							
PROPOSED LEVEL	25.929	25.909	25.765	25.715	25.615	25.655	25.821										25.707	25.667	25.817	25.817	26.001	26.021	
EXISTING LEVEL	24.62	24.62	24.65	24.65	24.65	24.65	24.66										24.66	24.66	24.66	24.66	24.66	24.66	
OFFSET	-10.300	-9.800	-6.190	-6.040	-6.000	-5.550	0.000										5.550	6.000	6.040	6.190	10.800	11.300	

CH 15.000



DATUM RL 22.25																							
PROPOSED LEVEL	26.387	26.347	26.203	26.203	26.053	26.093	26.259										26.093	26.053	26.203	26.203	26.387	26.407	
EXISTING LEVEL	24.42	24.42	24.45	24.45	24.45	24.46	24.50										24.54	24.54	24.54	24.54	24.55	24.55	
OFFSET	-10.300	-9.800	-6.190	-6.040	-6.000	-5.550	0.000										5.550	6.000	6.040	6.190	10.800	11.300	

CH 55.482



DATUM RL 22.00																							
PROPOSED LEVEL	25.945	25.925	25.780	25.780	25.630	25.670	25.837										25.670						
EXISTING LEVEL	24.07	24.07	24.07	24.07	24.07	24.07	24.07										24.09						
OFFSET	-10.300	-9.800	-6.190	-6.040	-6.000	-5.550	0.000										5.550						

CH 120.000

ROAD 06 CROSS SECTIONS

ROAD 07 CROSS SECTIONS

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

SCALE 1:200 @A1

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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: ROAD CROSS SECTION
SHEET 4 OF 11

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

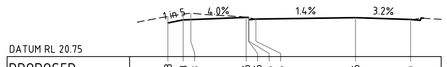
Datum	Date	Scale	Size
AHD	Jul' 2021	1:200	A1

Drawing Number: CV-CARDNO-S02-1404
Revision: 3

XREFs: XR-80219053-001-1AB-CC-CI-LOGO
CAD File: \\cardno.corp\global\AU\NSW\Directory\Structure\Projects\802\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\CC\02 Stage 2-4\CV-CARDNO-S02-1401-1411-DWG(1).dwg

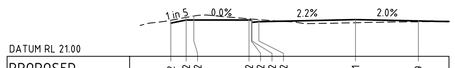
Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 17 August 2021 5:14 PM BY : JOSHUA BEZZINA



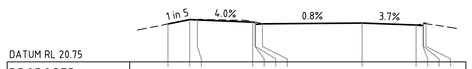
DATUM RL 20.75										
PROPOSED LEVEL	22.943	23.143	23.163	23.306	23.306	23.196	23.196	23.286		23.170
EXISTING LEVEL	23.36	23.53	23.57	23.31	23.29	23.28	23.19	23.27		23.16
OFFSET	-12.249	-11.249	-10.749	-7.139	-6.989	-6.949	-6.499	0.000		3.597

CH 293.763



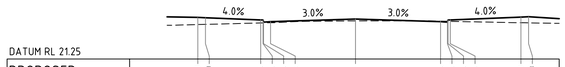
DATUM RL 21.00										
PROPOSED LEVEL	23.172	23.372	23.372	23.372	23.372	23.222	23.262	23.401		23.319
EXISTING LEVEL	23.36	23.56	23.63	23.45	23.44	23.44	23.40	23.20		23.26
OFFSET	-12.060	-11.060	-10.560	-6.950	-6.800	-6.760	-6.310	0.000		4.103

CH 285.000



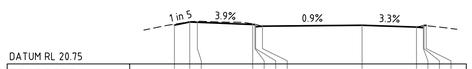
DATUM RL 20.75										
PROPOSED LEVEL	23.224	23.509	23.489	23.344	23.344	23.194	23.234	23.286		23.157
EXISTING LEVEL	23.22	23.48	23.51	23.38	23.35	23.35	23.24	23.28		23.16
OFFSET	-12.674	-11.750	-10.750	-7.140	-6.990	-6.950	-6.500	0.000		3.531

CH 308.000



DATUM RL 21.25										
PROPOSED LEVEL	23.969	23.943	23.804	23.804	23.654	23.654	23.694	23.861	23.674	23.654	23.804	23.989	24.009
EXISTING LEVEL	23.50	23.51	23.60	23.61	23.61	23.62	23.74	23.72	23.71	23.71	23.71	23.62	23.61
OFFSET	-10.300	-9.800	-6.190	-6.040	-6.000	-5.550	0.000	5.550	6.000	6.040	6.190	10.800	11.300

CH 270.000

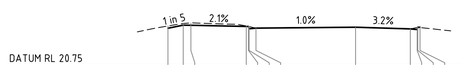


DATUM RL 20.75										
PROPOSED LEVEL	23.283	23.483	23.464	23.324	23.324	23.174	23.214	23.273		23.156	23.116	23.266	23.266
EXISTING LEVEL	23.34	23.51	23.53	23.36	23.33	23.32	23.21	23.27		23.16	23.25	23.26	23.25
OFFSET	-12.250	-11.250	-10.750	-7.140	-6.990	-6.950	-6.500	0.000		3.553	4.003	4.063	4.193

CH 300.000

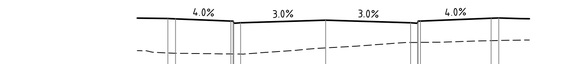
DATUM RL 21.25										
PROPOSED LEVEL	24.493	24.473	24.329	24.329	24.219	24.385	24.219	24.329	24.329	24.513	24.533
EXISTING LEVEL	23.48	23.46	23.40	23.41	23.43	23.53	23.61	23.60	23.60	23.57	23.57
OFFSET	-10.300	-9.800	-6.190	-6.040	-6.000	-5.550	0.000	5.550	6.000	6.040	6.190	10.800	11.300

CH 258.952



DATUM RL 20.75										
PROPOSED LEVEL	23.203	23.403	23.393	23.317	23.307	23.207	23.271	23.156	23.116	23.266	23.266
EXISTING LEVEL	23.35	23.51	23.54	23.35	23.32	23.21	23.27	23.16	23.25	23.26	23.25
OFFSET	-12.250	-11.250	-10.750	-7.140	-6.990	-6.950	-6.500	0.000	3.570	4.020	4.060	4.210

CH 298.279



DATUM RL 20.25										
PROPOSED LEVEL	24.673	24.653	24.509	24.509	24.399	24.565	24.399	24.509	24.509	24.693	24.713
EXISTING LEVEL	22.43	22.41	22.36	22.36	22.35	22.75	23.11	23.11	23.11	23.23	23.24
OFFSET	-10.300	-9.800	-6.190	-6.040	-6.000	-5.550	0.000	5.550	6.000	6.040	6.190	10.800	11.300

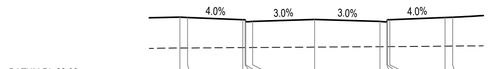
CH 255.000



DATUM RL 20.75										
PROPOSED LEVEL	22.972	23.172	23.188	23.306	23.156	23.196	23.280	23.158
EXISTING LEVEL	23.36	23.53	23.56	23.32	23.30	23.19	23.27	23.16
OFFSET	-12.250	-11.250	-10.750	-7.140	-6.990	-6.950	-6.500	0.000	3.597

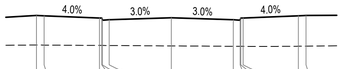
CH 294.809

ROAD 07 CROSS SECTIONS



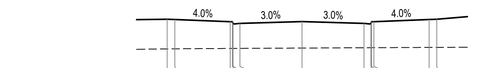
DATUM RL 22.00										
PROPOSED LEVEL	26.116	26.096	25.952	25.952	25.802	25.842	25.964	25.836	25.796	25.946	25.946	26.090	26.110
EXISTING LEVEL	24.10	24.11	24.13	24.13	24.13	24.13	24.16	24.19	24.19	24.19	24.19	24.22	24.23
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.264	4.714	4.754	4.904	8.514	9.014

CH 65.600



DATUM RL 22.25										
PROPOSED LEVEL	26.476	26.456	26.312	26.312	26.162	26.202	26.323	26.202	26.162	26.312	26.312	26.456	26.476
EXISTING LEVEL	24.55	24.54	24.52	24.52	24.52	24.52	24.49	24.46	24.46	24.46	24.46	24.47	24.47
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 120.000



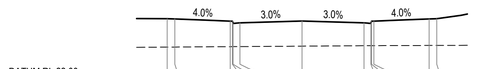
DATUM RL 22.00										
PROPOSED LEVEL	26.077	26.057	25.913	25.913	25.763	25.803	25.924	25.803	25.763	25.913	25.913	26.057	26.077
EXISTING LEVEL	24.14	24.14	24.17	24.17	24.17	24.17	24.19	24.21	24.22	24.22	24.22	24.23	24.24
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 60.000



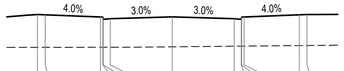
DATUM RL 22.00										
PROPOSED LEVEL	26.392	26.372	26.228	26.228	26.078	26.118	26.239	26.118	26.078	26.228	26.228	26.372	26.392
EXISTING LEVEL	24.25	24.25	24.26	24.26	24.26	24.27	24.30	24.33	24.34	24.34	24.34	24.37	24.37
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 105.000



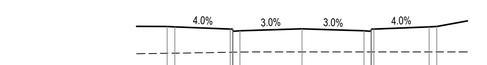
DATUM RL 22.00										
PROPOSED LEVEL	25.972	25.952	25.808	25.808	25.658	25.698	25.819	25.698	25.658	25.808	25.808	25.952	25.972
EXISTING LEVEL	24.11	24.12	24.14	24.14	24.14	24.15	24.18	24.20	24.21	24.21	24.21	24.22	24.22
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 45.000



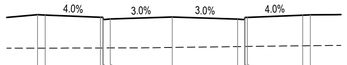
DATUM RL 22.00										
PROPOSED LEVEL	26.287	26.267	26.123	26.123	25.973	26.013	26.134	26.013	25.973	26.123	26.123	26.267	26.287
EXISTING LEVEL	24.14	24.14	24.15	24.15	24.15	24.15	24.18	24.22	24.22	24.22	24.22	24.26	24.26
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 90.000



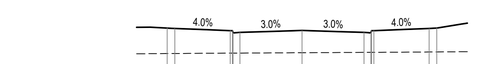
DATUM RL 22.00										
PROPOSED LEVEL	26.243	26.223	26.078	26.078	25.928	25.968	26.090	25.962	25.922	26.072	26.072	26.216	26.236
EXISTING LEVEL	24.06	24.06	24.07	24.07	24.07	24.08	24.11	24.16	24.17	24.17	24.17	24.22	24.22
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.264	4.714	4.754	4.904	8.514	9.014

CH 30.000



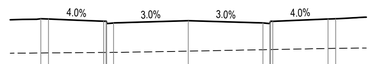
DATUM RL 22.00										
PROPOSED LEVEL	26.243	26.223	26.078	26.078	25.928	25.968	26.090	25.962	25.922	26.072	26.072	26.216	26.236
EXISTING LEVEL	24.06	24.06	24.07	24.07	24.07	24.08	24.11	24.16	24.17	24.17	24.17	24.22	24.22
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.264	4.714	4.754	4.904	8.514	9.014

CH 83.664



DATUM RL 22.00										
PROPOSED LEVEL	25.793	25.773	25.629	25.629	25.479	25.519	25.640	25.519	25.479	25.629	25.629	25.773	25.793
EXISTING LEVEL	24.14	24.14	24.16	24.16	24.16	24.17	24.19	24.21	24.22	24.22	24.22	24.24	24.24
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.500	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 15.000



DATUM RL 21.75										
PROPOSED LEVEL	26.157	26.137	25.993	25.993	25.843	25.883	26.029	25.883	25.843	25.993	25.993	26.137	26.157
EXISTING LEVEL	23.92	23.93	23.96	23.96	23.96	23.96	24.05	24.14	24.15	24.15	24.15	24.22	24.22
OFFSET	-9.627	-9.127	-5.517	-5.367	-5.327	-4.877	0.000	4.877	5.327	5.367	5.517	9.127	9.627

CH 75.000

ROAD 10 CROSS SECTIONS

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

lendlease

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Web: www.cardno.com.au

		Date
Drawn	WP	30/07/2021
Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE
Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE
Title: ROAD CROSS SECTION
SHEET 5 OF 11

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

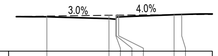
Datum	Date	Scale	Size
AHD	Jul' 2021	1:200	A1

Drawing Number: CV-CARDNO-S02-1405
Revision: 3

XREFs: XR-80219053-001-1AB-CC-CI-LOGO
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Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 17 August 2021 5:14 PM BY : JOSHUA BEZZINA



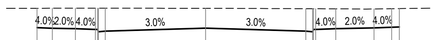
DATUM RL 23.50						
PROPOSED LEVEL	25.747		25.625	25.735	25.735	25.880
EXISTING LEVEL	25.79		25.86	25.86	25.86	25.89
OFFSET	0.000		4.050	4.500	4.690	8.300
			4.500	4.540		8.800

CH 165.000



DATUM RL 21.75								
PROPOSED LEVEL	24.176		23.980	23.940	24.090	24.090	24.142	24.192	24.238	24.259
EXISTING LEVEL	25.87		25.91	25.91	25.91	25.91	25.91	25.90	25.88	25.86
OFFSET	0.000		6.550	7.000	7.040	7.190	8.500	11.000	12.150	12.650

CH 90.000

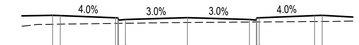


DATUM RL 22.50											
PROPOSED LEVEL	24.889	24.849	24.819	24.767	24.717	24.657	24.853	24.657	24.617	24.767	24.819	24.869	24.915	24.935
EXISTING LEVEL	26.15	26.16	26.16	26.16	26.16	26.16	26.15	26.13	26.12	26.12	26.12	26.11	26.13	26.13
OFFSET	-11.000	-10.000	-8.500	-7.190	-7.040	-6.550	0.000	6.550	7.000	7.040	7.190	8.500	11.000	12.150	12.650

CH 164.556

DATUM RL 22.75								
PROPOSED LEVEL	25.207	25.167	25.137	25.085	25.085	24.975	25.171	24.975
EXISTING LEVEL	26.29	26.30	26.30	26.31	26.31	26.31	26.34	26.33
OFFSET	-11.000	-10.000	-8.500	-7.190	-7.040	-6.550	0.000	6.550

CH 210.000



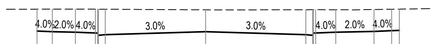
DATUM RL 23.25								
PROPOSED LEVEL	26.170	26.150	26.005	25.855	25.895	26.017	25.895	25.855	26.005	26.005	26.150	26.170
EXISTING LEVEL	25.59	25.59	25.64	25.65	25.65	25.70	25.73	25.74	25.74	25.74	25.77	25.77
OFFSET	-8.800	-8.300	-4.690	-4.540	-4.050	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 150.000



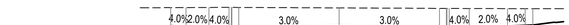
DATUM RL 21.75								
PROPOSED LEVEL	24.094		23.898	23.858	24.008	24.008	24.060	24.110	24.156	24.176
EXISTING LEVEL	25.77		25.78	25.77	25.77	25.77	25.74	25.71	25.71	25.70
OFFSET	0.000		6.550	7.000	7.040	7.190	8.500	11.000	12.150	12.650

CH 84.344



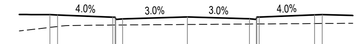
DATUM RL 22.50											
PROPOSED LEVEL	24.787	24.747	24.717	24.665	24.665	24.555	24.751	24.555	24.515	24.665	24.717	24.767	24.813	24.833
EXISTING LEVEL	26.22	26.22	26.22	26.22	26.22	26.21	26.17	26.18	26.18	26.18	26.18	26.20	26.21	26.22
OFFSET	-11.000	-10.000	-8.500	-7.190	-7.040	-6.550	0.000	6.550	7.000	7.040	7.190	8.500	11.000	12.150	12.650

CH 150.000



DATUM RL 22.75											
PROPOSED LEVEL	25.133	25.093	25.063	25.011	25.011	24.861	24.901	25.097	24.901	24.861	25.011	25.011	25.063	25.113	25.159	25.179
EXISTING LEVEL	26.31	26.31	26.32	26.33	26.33	26.32	26.29	26.26	26.26	26.26	26.26	26.26	26.25	26.25
OFFSET	-11.000	-10.000	-8.500	-7.190	-7.040	-6.550	0.000	6.550	7.000	7.040	7.190	8.500	11.000	12.150	12.650

CH 199.463



DATUM RL 23.00								
PROPOSED LEVEL	26.301	26.281	26.137	26.137	25.987	26.027	26.154	26.032	25.992	26.142	26.142	26.286	26.306
EXISTING LEVEL	25.47	25.53	25.62	25.62	25.62	25.63	25.66	25.69	25.69	25.69	25.69	25.72	25.72
OFFSET	-8.977	-8.477	-4.867	-4.717	-4.677	-4.227	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 142.702



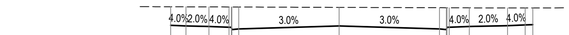
DATUM RL 21.75								
PROPOSED LEVEL	24.012		23.816	23.776	23.926	23.926	23.978	24.028	24.074	24.094
EXISTING LEVEL	25.70		25.66	25.65	25.65	25.65	25.62	25.56	25.53	25.52
OFFSET	0.000		6.550	7.000	7.040	7.190	8.500	11.000	12.150	12.650

CH 78.859



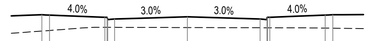
DATUM RL 22.25											
PROPOSED LEVEL	24.682	24.642	24.612	24.560	24.560	24.450	24.646	24.450	24.410	24.560	24.612	24.662	24.708	24.728
EXISTING LEVEL	26.20	26.20	26.20	26.20	26.20	26.20	26.19	26.19	26.19	26.19	26.19	26.18	26.20	26.20
OFFSET	-11.000	-10.000	-8.500	-7.190	-7.040	-6.550	0.000	6.550	7.000	7.040	7.190	8.500	11.000	12.150	12.650

CH 135.000



DATUM RL 22.75											
PROPOSED LEVEL	25.102	25.062	25.032	24.980	24.980	24.830	24.870	25.066	24.870	24.830	24.980	24.980	25.032	25.082	25.128	25.148
EXISTING LEVEL	26.32	26.31	26.31	26.30	26.30	26.30	26.30	26.28	26.25	26.25	26.25	26.25	26.24
OFFSET	-11.000	-10.000	-8.500	-7.190	-7.040	-7.000	-6.550	0.000	6.550	7.000	7.040	7.190	8.300	11.000	12.150	12.650

CH 195.000



DATUM RL 23.00								
PROPOSED LEVEL	26.388	26.368	26.223	26.223	26.073	26.113	26.256	26.113	26.073	26.223	26.223	26.368	26.388
EXISTING LEVEL	25.33	25.36	25.57	25.57	25.57	25.57	25.55	25.54	25.54	25.54	25.54	25.52	25.51
OFFSET	-9.498	-8.998	-5.388	-5.238	-5.088	-4.748	0.000	4.745	5.195	5.345	5.585	8.995	9.495

CH 135.000



DATUM RL 21.50								
PROPOSED LEVEL	23.954		23.758	23.718	23.868	23.868	23.920	23.970	24.016	24.036
EXISTING LEVEL	25.58		25.53	25.53	25.53	25.52	25.49	25.43	25.41	25.39
OFFSET	0.000		6.550	7.000	7.040	7.190	8.500	11.000	12.150	12.650

CH 75.000



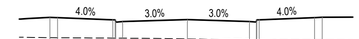
DATUM RL 22.25											
PROPOSED LEVEL	24.561	24.521	24.491	24.439	24.439	24.289	24.329	24.526	24.329	24.289	24.439	24.491	24.541	24.587	24.607
EXISTING LEVEL	26.18	26.18	26.18	26.18	26.18	26.18	26.18	26.19	26.18	26.18	26.18	26.17	26.16	26.16	26.18
OFFSET	-11.000	-10.000	-8.500	-7.190	-7.040	-7.000	-6.550	0.000	6.550	7.000	7.040	7.190	8.500	11.000	12.150	12.650

CH 120.000



DATUM RL 22.50											
PROPOSED LEVEL	24.997	24.957	24.927	24.875	24.875	24.725	24.765	24.961	24.765	24.725	24.875	24.875	24.927	24.977	25.023	25.043
EXISTING LEVEL	26.34	26.33	26.32	26.32	26.31	26.31	26.31	26.28	26.25	26.25	26.25	26.25	26.23	26.22	26.22	26.22
OFFSET	-11.000	-10.000	-8.500	-7.190	-7.040	-7.000	-6.550	0.000	6.550	7.000	7.040	7.190	8.500	11.000	12.150	12.650

CH 180.000



DATUM RL 22.75								
PROPOSED LEVEL	26.465	26.445	26.301	26.301	26.151	26.191	26.318	26.196	26.156	26.306	26.306	26.451	26.471
EXISTING LEVEL	25.14	25.14	25.11	25.11	25.11	25.11	25.05	24.98	24.97	24.97	24.96	24.91	24.91
OFFSET	-8.977	-8.477	-4.867	-4.717	-4.677	-4.227	0.000	4.050	4.500	4.540	4.690	8.300	8.800

CH 125.732



DATUM RL 21.50								
PROPOSED LEVEL	23.820		23.623	23.583	23.733	23.733	23.766	23.836	23.882	23.902
EXISTING LEVEL	25.14		25.00	24.99	24.99	24.99	24.98	24.95	24.93	24.93
OFFSET	0.000		6.550	7.000	7.040	7.190	8.500	11.000	12.150	12.650

CH 62.900



DATUM RL 22.00											
PROPOSED LEVEL	24.405	24.365	24.335	24.282	24.282	24.132	24.172	24.369	24.172	24.132	24.282	24.335	24.385	24.431	24.451
EXISTING LEVEL	26.09	26.09	26.09	26.08	26.08	26.08	26.08	26.09	26.12	26.12	26.13	26.13	26.12	26.12	26.12
OFFSET	-11.000	-10.000	-8.500	-7.190	-7.040	-7.000	-6.550	0.000	6.550	7.000	7.040	7.190	8.500	11.000	12.150	12.650

CH 105.000



DATUM RL 22.50											
PROPOSED LEVEL	24.892	24.852	24.822	24.770	24.770	24.620	24.660	24.856	24.660	24.620	24.770	24.770	24.822	24.872	24.918	24.938
EXISTING LEVEL	26.15	26.15	26.16	26.16	26.16	26.16	26.16	26.15	26.13	26.12	26.12	26.12	26.12	26.11	26.12	26.13
OFFSET	-11.000	-10.000	-8.500	-7.190	-7.040	-7.000	-6.550	0.000	6.550	7.000	7.040	7.190	8.500	11.000	12.150	12.650

CH 165.000

ROAD 10 CROSS SECTIONS

ROAD 11 CROSS SECTIONS

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

SCALE 1:200 @A1

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Web: www.cardno.com.au

		Date
Drawn	WP	30/07/2021
Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: ROAD CROSS SECTION
SHEET 6 OF 11

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

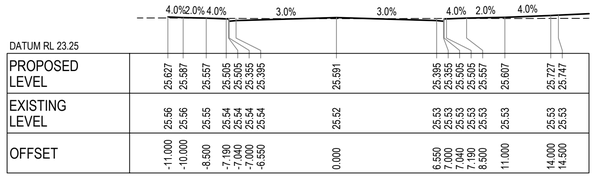
Datum	Date	Scale	Size
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Drawing Number: CV-CARDNO-S02-1406
Revision: 3

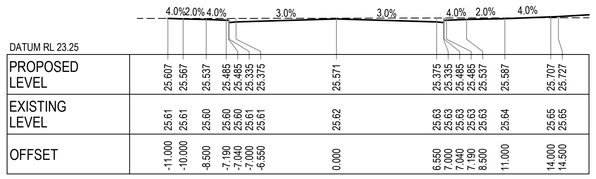
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Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

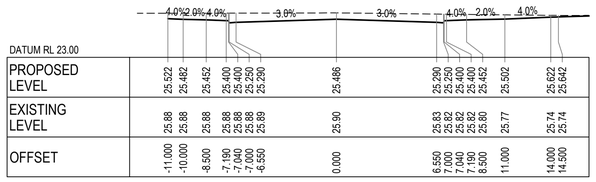
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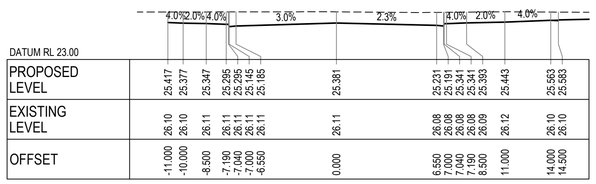
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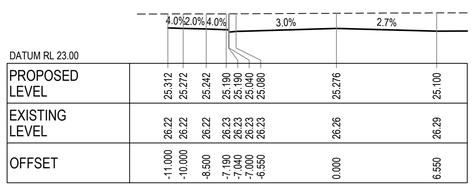
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CH 255.000

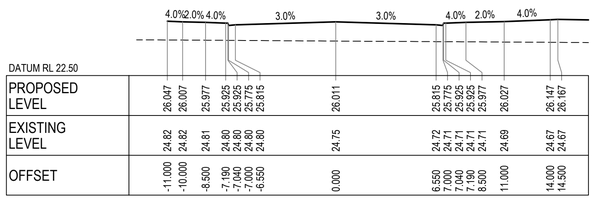


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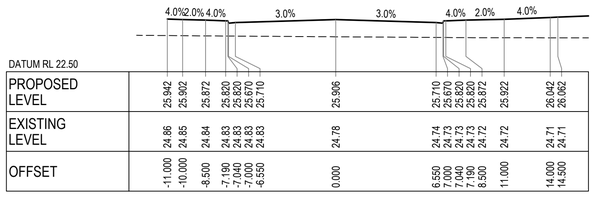


CH 225.000

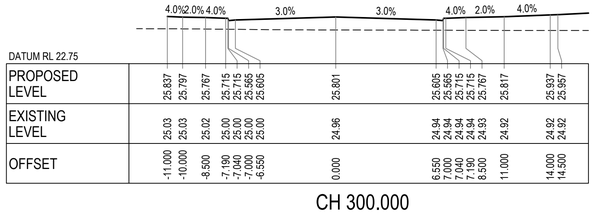
ROAD 11 CROSS SECTIONS



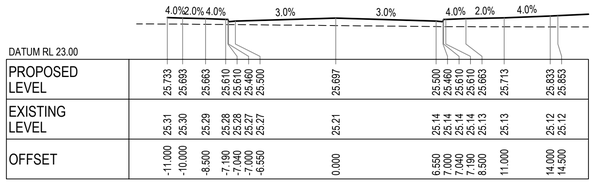
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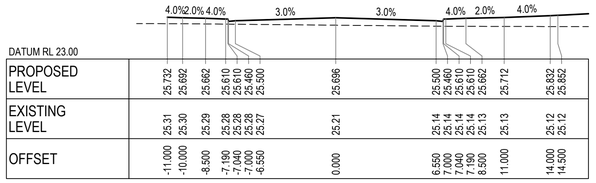
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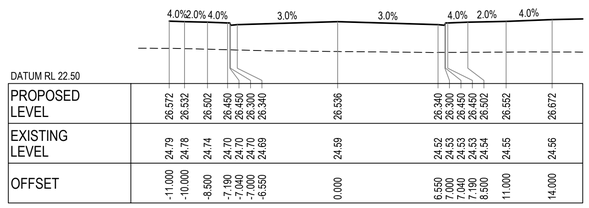
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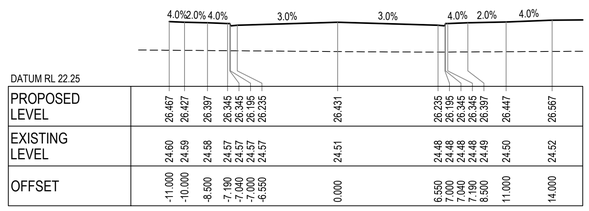
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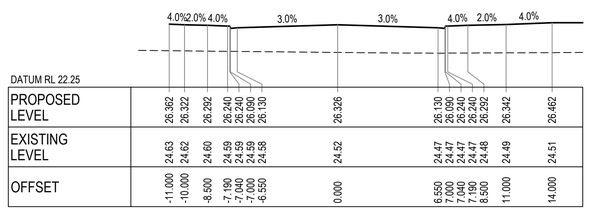
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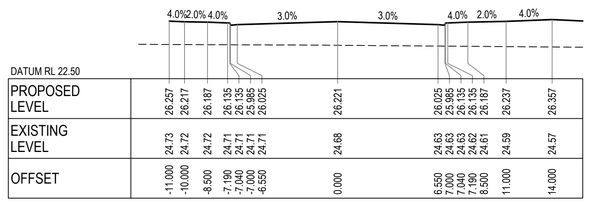
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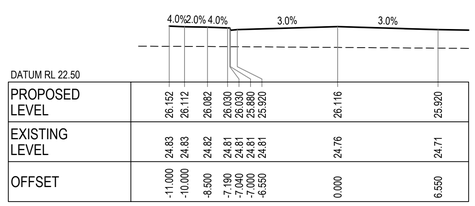
CH 390.000



CH 375.000



CH 360.000



CH 345.000

Rev.	Date	Description	Des.	Verif.	Appd.
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2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

SCALE 1:200 (0, 5, 10, 15, 20m) @A1

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Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: ROAD CROSS SECTION
SHEET 7 OF 11

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

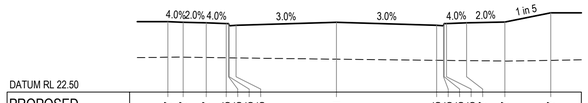
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Drawing Number: CV-CARDNO-S02-1407
Revision: 3

XREF's: XR-80219053-001-1AB-CC-CI-LOGO
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Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

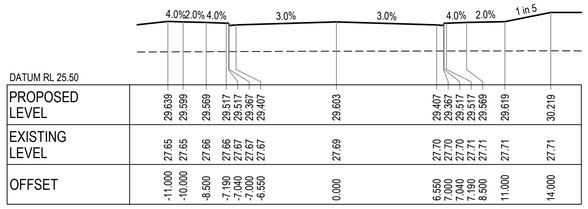
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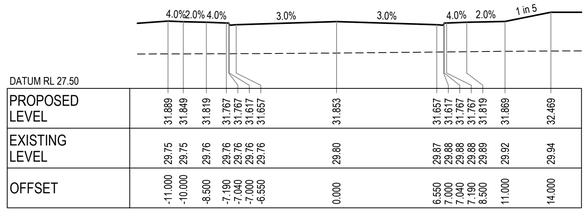
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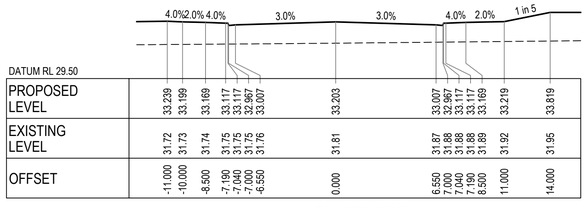
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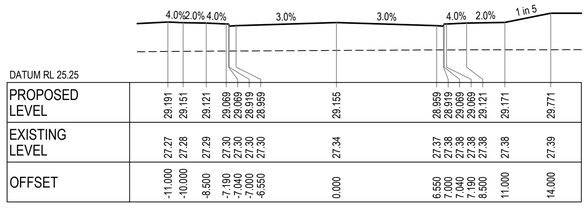
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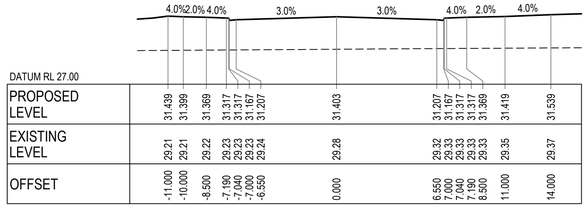
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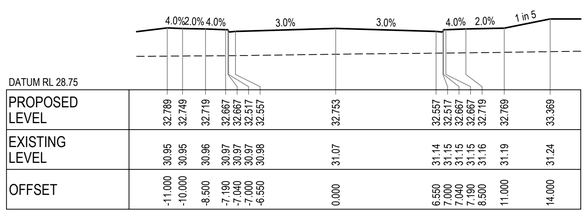
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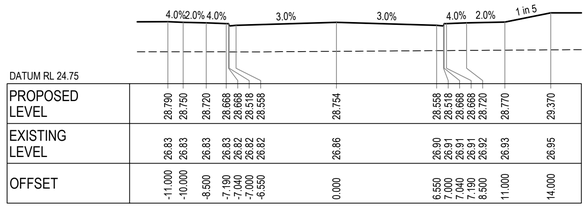
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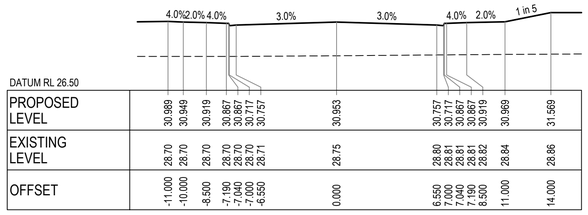
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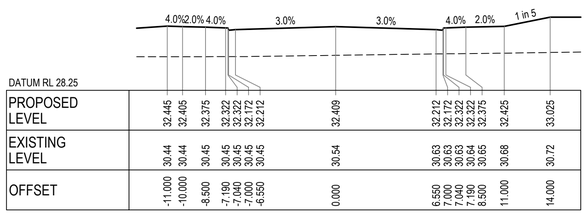
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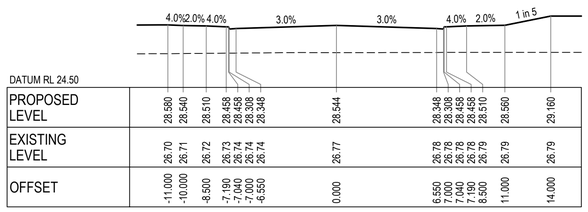
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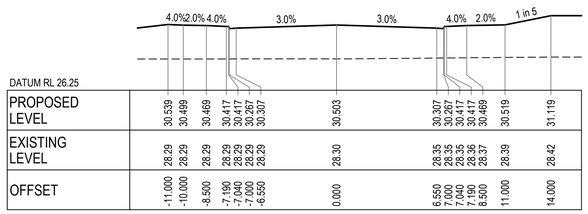
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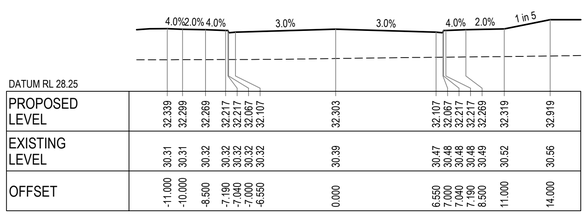
CH 768.522



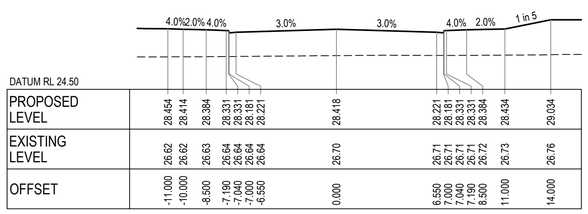
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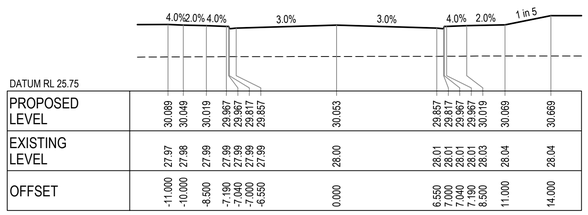
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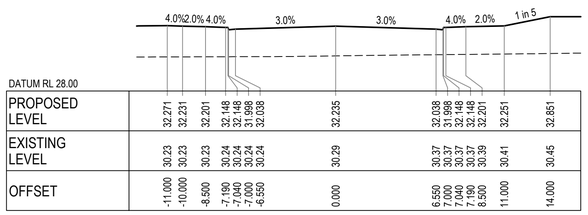
CH 765.000



CH 630.000



CH 690.000



CH 762.720

ROAD 11 CROSS SECTIONS

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
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lendlease

0 5 10 15 20m
SCALE 1:200 @A1

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Drawn	WP	Date 30/07/2021
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Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE
Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE
Title: ROAD CROSS SECTION
SHEET 9 OF 11

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

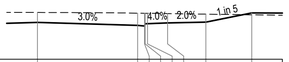
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Drawing Number: CV-CARDNO-S02-1409
Revision: 3

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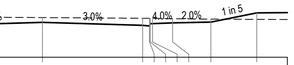
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DATE PLOTTED: 17 August 2021 5:15 PM BY: JOSHUA BEZZINA



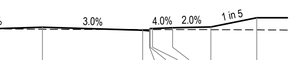
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PROPOSED LEVEL				35.654			35.457	35.417	35.567	35.567	35.620	35.670		36.270
EXISTING LEVEL				36.30			36.26	36.25	36.25	36.25	36.23	36.19		36.15
OFFSET				0.000			6.550	7.000	7.040	7.190	8.500	11.000		14.000

CH 870.000



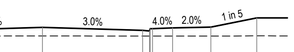
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PROPOSED LEVEL	35.069	35.029	34.999	34.947	34.947	34.797	34.837	35.034			34.837	34.797	34.947	34.947	34.947	34.999	35.049		35.649
EXISTING LEVEL	35.39	35.39	35.39	35.39	35.39	35.39	35.38	35.34			35.30	35.29	35.29	35.29	35.27	35.24	35.23		35.23
OFFSET	-11.000	-10.000	-8.500	-7.190	-7.040	-7.000	-6.550	0.000			6.550	7.000	7.040	7.190	8.500	11.000	14.000		14.000

CH 855.000



DATUM RL 32.25														
PROPOSED LEVEL	34.589	34.549	34.519	34.467	34.467	34.317	34.357	34.553			34.357	34.317	34.467	34.467	34.467	34.519	34.569		35.169
EXISTING LEVEL	34.43	34.44	34.45	34.46	34.46	34.46	34.47	34.42			34.41	34.41	34.41	34.41	34.41	34.40	34.40		34.38
OFFSET	-11.000	-10.000	-8.500	-7.190	-7.040	-7.000	-6.550	0.000			6.550	7.000	7.040	7.190	8.500	11.000	14.000		14.000

CH 840.000



DATUM RL 31.25														
PROPOSED LEVEL	34.139	34.099	34.069	34.017	34.017	33.867	33.907	34.103			33.907	33.867	34.017	34.017	34.017	34.069	34.119		34.719
EXISTING LEVEL	33.48	33.48	33.50	33.51	33.51	33.51	33.51	33.54			33.54	33.54	33.54	33.54	33.54	33.54	33.54		33.56
OFFSET	-11.000	-10.000	-8.500	-7.190	-7.040	-7.000	-6.550	0.000			6.550	7.000	7.040	7.190	8.500	11.000	14.000		14.000

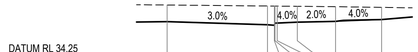
CH 825.000



DATUM RL 30.50														
PROPOSED LEVEL	33.689	33.649	33.619	33.567	33.567	33.417	33.457	33.653			33.457	33.417	33.567	33.567	33.567	33.619	33.669		34.269
EXISTING LEVEL	32.56	32.56	32.57	32.57	32.57	32.57	32.57	32.62			32.68	32.68	32.68	32.69	32.69	32.70	32.71		32.74
OFFSET	-11.000	-10.000	-8.500	-7.190	-7.040	-7.000	-6.550	0.000			6.550	7.000	7.040	7.190	8.500	11.000	14.000		14.000

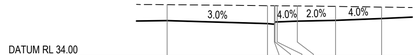
CH 810.000

ROAD 11 CROSS SECTIONS



DATUM RL 34.25														
PROPOSED LEVEL	36.494							36.297	36.257	36.407	36.460	36.510		36.630
EXISTING LEVEL	37.58							37.52	37.51	37.51	37.50	37.47		37.43
OFFSET	0.000							6.550	7.000	7.040	7.190	8.500	11.000	14.000

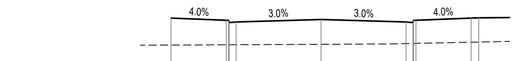
CH 886.999



DATUM RL 34.00														
PROPOSED LEVEL	36.394							36.197	36.157	36.307	36.307	36.360	36.410	36.530
EXISTING LEVEL	37.43							37.37	37.36	37.36	37.36	37.35	37.32	37.28
OFFSET	0.000							6.550	7.000	7.040	7.190	8.500	11.000	14.000

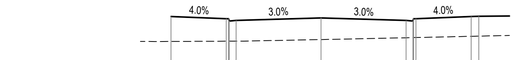
CH 885.000

ROAD 11 CROSS SECTIONS



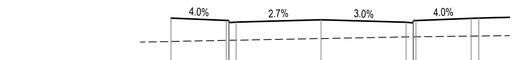
DATUM RL 22.75														
PROPOSED LEVEL	26.728		26.583	26.433	26.433	26.473		26.640			26.473	26.433	26.383	26.383		26.728		26.748
EXISTING LEVEL	24.97		24.99	24.99	24.99	24.99		25.02			25.07	25.07	25.08	25.08		25.15		25.17
OFFSET	-9.800		-6.190	-6.040	-6.000	-5.550		0.000			5.550	6.000	6.040	6.190		9.800		10.300

CH 60.000



DATUM RL 22.75														
PROPOSED LEVEL	26.623		26.478	26.328	26.328	26.388		26.535			26.368	26.328	26.478	26.478		26.623		26.643
EXISTING LEVEL	25.00		25.01	25.01	25.01	25.02		25.12			25.24	25.25	25.25	25.25		25.33		25.34
OFFSET	-9.800		-6.190	-6.040	-6.000	-5.550		0.000			5.550	6.000	6.040	6.190		9.800		10.300

CH 45.000



DATUM RL 22.75														
PROPOSED LEVEL	26.533		26.389	26.229	26.229	26.279		26.430			26.263	26.223	26.373	26.373		26.518		26.538
EXISTING LEVEL	25.01		25.08	25.09	25.09	25.09		25.20			25.31	25.32	25.32	25.32		25.36		25.37
OFFSET	-9.800		-6.190	-6.040	-6.000	-5.550		0.000			5.550	6.000	6.040	6.190		9.800		10.300

CH 30.000



DATUM RL 23.00														
PROPOSED LEVEL								26.335			26.168	26.128	26.278	26.278		26.423		26.443
EXISTING LEVEL								25.16			25.23	25.24	25.24	25.24		25.28		25.29
OFFSET								0.000			5.550	6.000	6.040	6.190		9.800		10.300

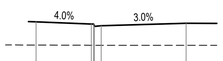
CH 15.476



DATUM RL 23.00														
PROPOSED LEVEL								26.335			26.169	26.129	26.279	26.279		26.423		26.443
EXISTING LEVEL								25.16			25.23	25.24	25.24	25.24		25.28		25.29
OFFSET								0.000			5.550	6.000	6.040	6.190		9.800		10.300

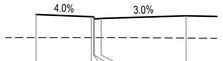
CH 15.000

ROAD 12 CROSS SECTIONS



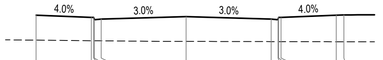
DATUM RL 23.50														
PROPOSED LEVEL	27.232			27.087	27.087	27.037	26.977							27.144
EXISTING LEVEL	25.72			25.70	25.70	25.70	25.70							25.70
OFFSET	-9.800			-6.190	-6.040	-6.000	-5.550							0.000

CH 132.000



DATUM RL 23.50														
PROPOSED LEVEL	27.148			27.003	27.003	26.853	26.893							27.060
EXISTING LEVEL	25.64			25.64	25.64	25.64	25.64							25.61
OFFSET	-9.800			-6.190	-6.040	-6.000	-5.550							0.000

CH 120.000



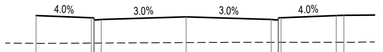
DATUM RL 23.25														
PROPOSED LEVEL	27.043		26.898	26.898	26.748	26.788		26.955					26.788	26.748	26.898	26.898		27.043	27.063
EXISTING LEVEL	25.42		25.38	25.38	25.38	25.37		25.33					25.32	25.32	25.32	25.32		25.31	25.31
OFFSET	-9.800		-6.190	-6.040	-6.000	-5.550		0.000					5.550	6.000	6.040	6.190		9.800	10.300

CH 105.000



DATUM RL 23.00														
PROPOSED LEVEL	26.938		26.783	26.733	26.643	26.683		26.850					26.683	26.643	26.793	26.793		26.938	26.958
EXISTING LEVEL	25.22		25.19	25.19	25.19	25.19		25.17					25.17	25.17	25.17	25.17		25.17	25.17
OFFSET	-9.800		-6.190	-6.040	-6.000	-5.550		0.000					5.550	6.000	6.040	6.190		9.800	10.300

CH 90.000



DATUM RL 23.00														
PROPOSED LEVEL	26.833		26.688	26.688	26.538	26.578		26.745					26.578	26.538	26.688	26.688		26.833	26.853
EXISTING LEVEL	25.02		25.03	25.03	25.04	25.04		25.07					25.09	25.09	25.09	25.09		25.09	25.09
OFFSET	-9.800		-6.190	-6.040	-6.000	-5.550		0.000					5.550	6.000	6.040	6.190		9.800	10.300

CH 75.000

ROAD 12 CROSS SECTIONS

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

lendlease

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SCALE 1:200 @A1

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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: ROAD CROSS SECTION
SHEET 10 OF 11

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

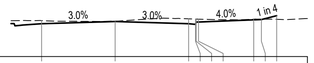
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AHD	Jul' 2021	1:200	A1

Drawing Number: CV-CARDNO-S02-1410
Revision: 3

XREFs: XR-80219053-001-1AB-CC-CI-LOGO
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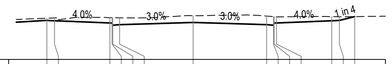
DATE PLOTTED: 17 August 2021 5:16 PM BY: JOSHUA BEZZINA



DATUM RL 23.75

PROPOSED LEVEL			25.893		26.037		25.893	25.853	26.003	26.003	26.147	26.167	26.417
EXISTING LEVEL			26.10		26.06		26.21	26.20	26.20	26.19	26.19	26.19	26.18
OFFSET			-4.800		0.000		4.800	5.250	5.290	5.440	9.050	9.550	10.550

CH 58.410



DATUM RL 23.50

PROPOSED LEVEL	26.042	26.022	25.878	25.878	25.728	25.768	25.912	25.768	25.728	25.878	25.878	26.042	26.292
EXISTING LEVEL	26.19	26.21	26.22	26.22	26.20	26.21	26.35	26.33	26.29	26.29	26.29	26.29	26.29
OFFSET	-9.550	-9.050	-5.440	-5.290	-5.250	-4.800	0.000	4.800	5.250	5.290	5.440	9.050	9.550	10.550

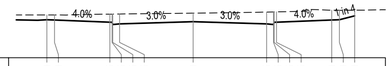
CH 45.000



DATUM RL 23.50

PROPOSED LEVEL	25.868	25.836	25.836	25.686	25.726	25.870	25.726	25.686	25.836	25.836	25.980	26.000	26.250
EXISTING LEVEL	25.86	25.84	25.84	26.05	26.12	26.60	26.47	26.44	26.44	26.43	26.28	26.28	26.23
OFFSET	-6.250	-5.440	-5.290	-5.250	-4.800	0.000	4.800	5.250	5.290	5.440	9.050	9.550	10.550

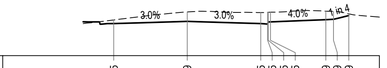
CH 90.000



DATUM RL 23.25

PROPOSED LEVEL	25.730	25.710	25.565	25.565	25.415	25.455	25.599	25.455	25.415	25.565	25.565	25.710	25.980
EXISTING LEVEL	26.04	26.04	26.10	26.10	26.10	26.10	26.16	26.23	26.24	26.24	26.24	26.35	26.35
OFFSET	-9.550	-9.050	-5.440	-5.290	-5.250	-4.800	0.000	4.800	5.250	5.290	5.440	9.050	9.550	10.550

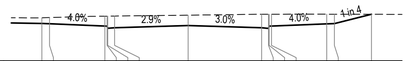
CH 30.000



DATUM RL 23.75

PROPOSED LEVEL			25.845		25.989		25.845	25.805	25.955	25.955	26.099	26.119	26.369
EXISTING LEVEL			26.08		26.60		26.56	26.58	26.58	26.58	26.65	26.63	26.48
OFFSET			-4.800		0.000		4.800	5.250	5.290	5.440	9.050	9.550	10.550

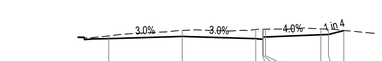
CH 75.000



DATUM RL 23.25

PROPOSED LEVEL	25.680	25.660	25.515	25.515	25.365	25.405	25.545	25.400	25.360	25.510	25.510	25.654	25.914	26.278
EXISTING LEVEL	26.05	26.07	26.16	26.16	26.16	26.16	26.22	26.28	26.28	26.28	26.28	26.29	26.28	26.28
OFFSET	-9.550	-9.050	-5.440	-5.290	-5.250	-4.800	0.000	4.800	5.250	5.290	5.440	9.050	9.550	11.965

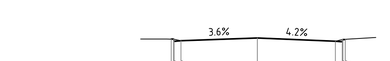
CH 28.009



DATUM RL 23.75

PROPOSED LEVEL	25.856		26.000				25.856	25.816	25.966	25.966	26.110	26.130	26.380
EXISTING LEVEL	26.04		26.39				26.46	26.48	26.48	26.48	26.50	26.48	26.39
OFFSET	-4.800		0.000				4.800	5.250	5.290	5.440	9.050	9.550	10.550

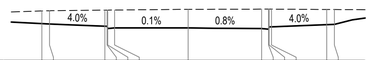
CH 73.554



DATUM RL 20.75

PROPOSED LEVEL	23.152	23.152	23.002	23.042		23.222					23.099	22.969	23.119	23.119
EXISTING LEVEL	23.14	23.14	23.14	23.04		23.22					23.01	23.12	23.12	23.13
OFFSET	-5.626	-5.476	-5.436	-4.986		0.000					5.096	5.546	5.586	5.736

CH 25.000

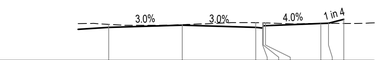


DATUM RL 23.00

PROPOSED LEVEL	25.390	25.370	25.226	25.226	25.076	25.116	25.112	25.072	25.032	25.182	25.182	25.326	25.346
EXISTING LEVEL	26.22	26.24	26.27	26.28	26.28	26.28	26.32	26.34	26.34	26.34	26.34	26.32	26.31
OFFSET	-9.550	-9.050	-5.440	-5.290	-5.250	-4.800	0.000	4.800	5.250	5.290	5.440	9.050	9.550	10.550

CH 15.000

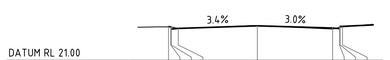
ROAD 13 CROSS SECTIONS



DATUM RL 23.75

PROPOSED LEVEL	25.898		26.042				25.898	25.858	26.008	26.008	26.152	26.172	26.422
EXISTING LEVEL	26.10		26.08				26.20	26.19	26.19	26.19	26.16	26.16	26.15
OFFSET	-4.800		0.000				4.800	5.250	5.290	5.440	9.050	9.550	10.550

CH 60.000



DATUM RL 21.00

PROPOSED LEVEL	23.186	23.186	23.036	23.076		23.251					23.104	23.064	23.214	23.214
EXISTING LEVEL	23.18	23.18	23.18	23.08		23.25					23.04	23.15	23.16	23.17
OFFSET	-5.806	-5.656	-5.616	-5.166		0.000					4.918	5.368	5.408	5.558

CH 15.000

WALKER STREET CROSS SECTIONS

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

SCALE 1:200 @A1

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Drawn	WP	Date	30/07/2021
Checked	MZ	Date	30/07/2021
Designed	DAC	Date	30/07/2021
Verified	MZ	Date	30/07/2021
Approved	MZ		30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: ROAD CROSS SECTION
SHEET 11 OF 11

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

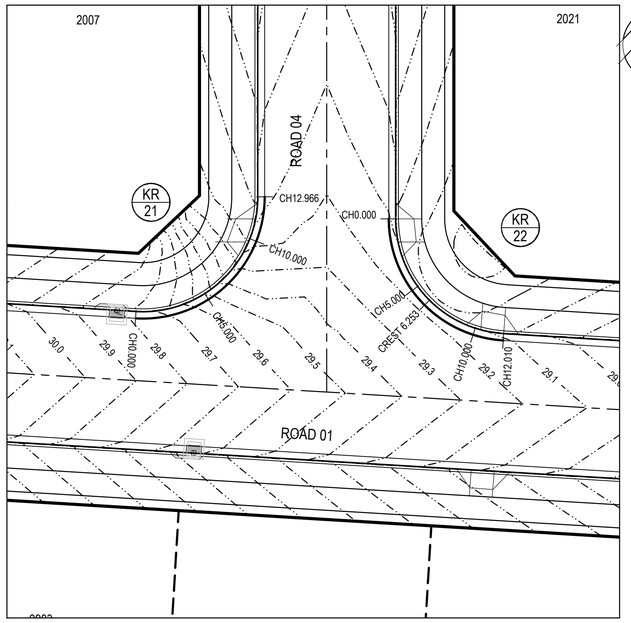
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AHD	Jul' 2021	1:200	A1

Drawing Number: CV-CARDNO-S02-1411

Revision: 3

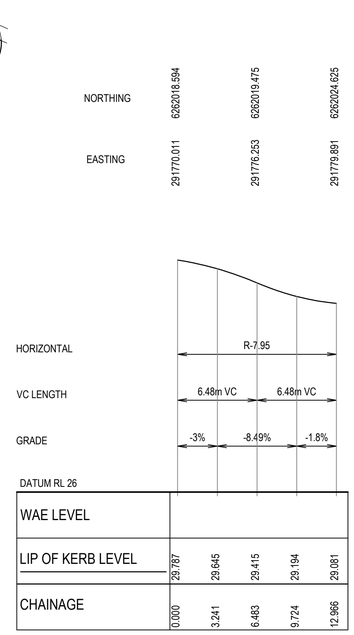
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Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022



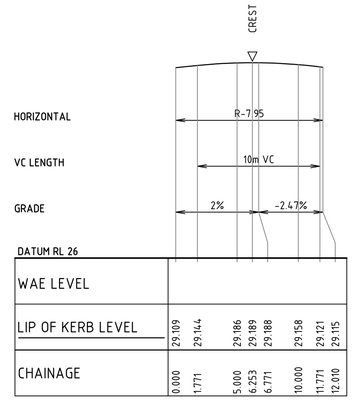
ROAD 01 AND ROAD 04 INTERSECTION

SCALE 1:200



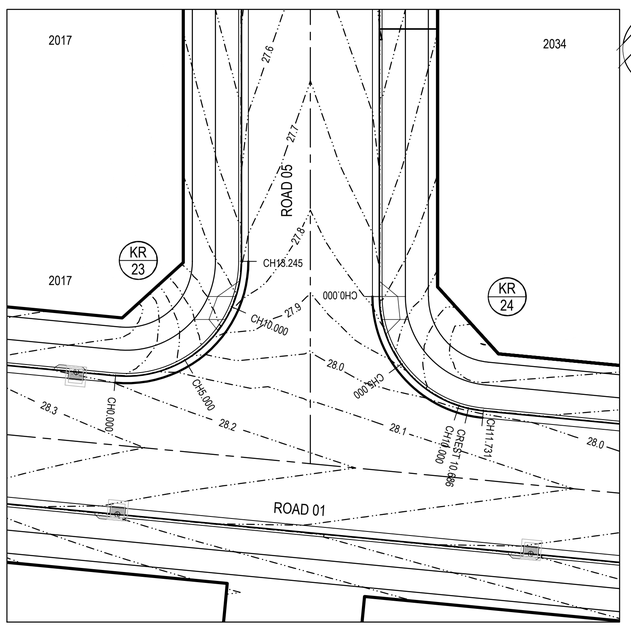
KERB RETURN 21

1:250 HORI.
1:50 VERT.



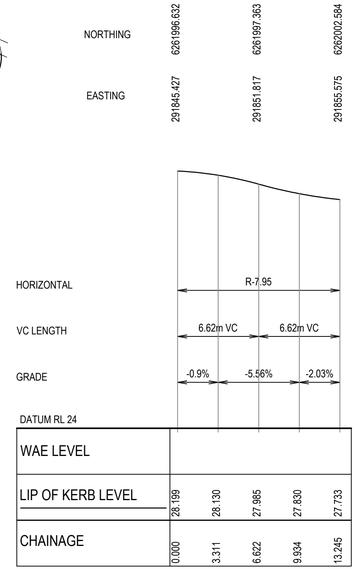
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1:250 HORI.
1:50 VERT.



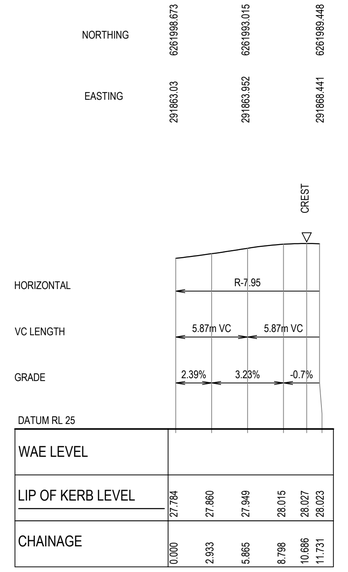
ROAD 01 AND ROAD 05 INTERSECTION

SCALE 1:200



KERB RETURN 23

1:250 HORI.
1:50 VERT.



KERB RETURN 24

1:250 HORI.
1:50 VERT.

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

SCALE 1:50 @A1 (0 1 2 3 4 5m)
SCALE 1:200 @A1 (0 5 10 15 20m)
SCALE 1:250 @A1 (0 5 10 15 20 25m)

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		Date
Drawn	WP	30/07/2021
Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
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Approved	MZ	30/07/2021

Client: LENDLEASE
Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE
Title: ROAD INTERSECTION PLAN
SHEET 1 OF 6

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

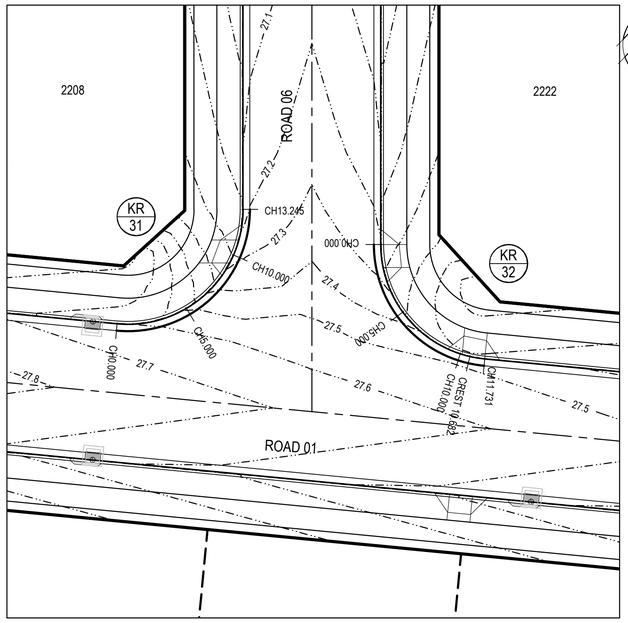
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Drawing Number: CV-CARDNO-S02-1501
Revision: 3

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DATE PLOTTED: 17 August 2021 5:17 PM BY : JOSHUA BEZZINA

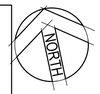
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Version: 1, Version Date: 16/03/2022

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ROAD 01 AND ROAD 06 INTERSECTION

SCALE 1:200



NORTHING	6261973.703		6261974.435		6261979.655
EASTING	291918.88		291925.271		291929.028
HORIZONTAL		R-7.95			
VC LENGTH		6.62m VC	6.62m VC		
GRADE		-0.7%	-5.51%	-1.86%	
DATUM RL 24					
WAE LEVEL					
LIP OF KERB LEVEL	27.653	27.590	27.447	27.295	27.203
CHAINAGE	0.000	3.311	6.622	9.934	13.245

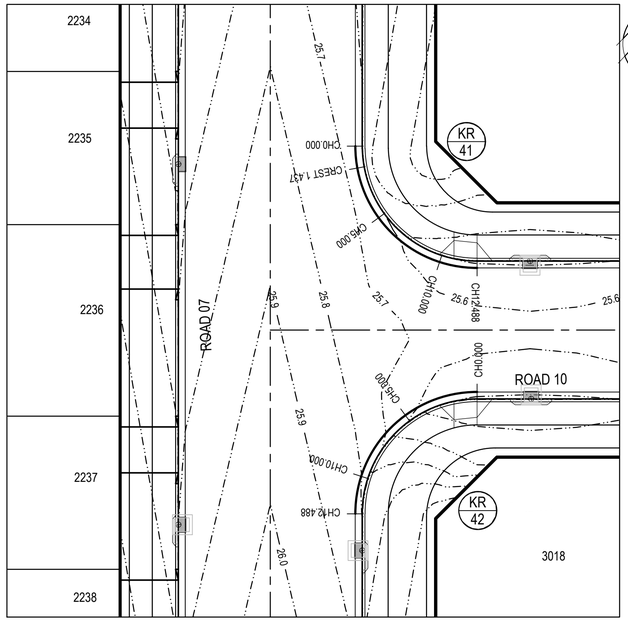
KERB RETURN 31

1:250 HORI.
1:50 VERT.

NORTHING	6261975.745		6261970.086			6261966.519
EASTING	291936.483		291937.405			291941.894
				CREST		
HORIZONTAL		R-7.95				
VC LENGTH		5.87m VC	5.87m VC			
GRADE		2.24%	3.22%	-0.7%		
DATUM RL 24						
WAE LEVEL						
LIP OF KERB LEVEL	27.250	27.323	27.410	27.476	27.488	27.484
CHAINAGE	0.000	2.933	5.865	8.798	10.682	11.731

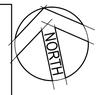
KERB RETURN 32

1:250 HORI.
1:50 VERT.



ROAD 07 AND ROAD 10 INTERSECTION

SCALE 1:200



NORTHING	6261997.276		6261991.296		6261987.86
EASTING	292101.194		292102.316		292107.337
		CREST			
HORIZONTAL		R-7.95			
VC LENGTH		6.24m VC	6.24m VC		
GRADE		0.7%	-2.34%	-0.62%	
DATUM RL 22					
WAE LEVEL					
LIP OF KERB LEVEL	25.670	25.675	25.668	25.618	25.559	25.526
CHAINAGE	0.000	1.437	3.122	6.244	9.366	12.488

KERB RETURN 41

1:250 HORI.
1:50 VERT.

NORTHING	6261979.933		6261978.812			6261973.79
EASTING	292105.67		292099.689			292096.253
HORIZONTAL		R-7.95				
VC LENGTH		6.24m VC	6.24m VC			
GRADE		0.62%	4.33%	0.7%		
DATUM RL 22						
WAE LEVEL						
LIP OF KERB LEVEL	25.526	25.574	25.681	25.788	25.838	
CHAINAGE	0.000	3.122	6.244	9.366	12.488	

KERB RETURN 42

1:250 HORI.
1:50 VERT.

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

lendlease

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SCALE 1:50 @A1
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SCALE 1:200 @A1
0 5 10 15 20 25m
SCALE 1:250 @A1

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Client: LENDLEASE
Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE
Title: ROAD INTERSECTION PLAN
SHEET 2 OF 6

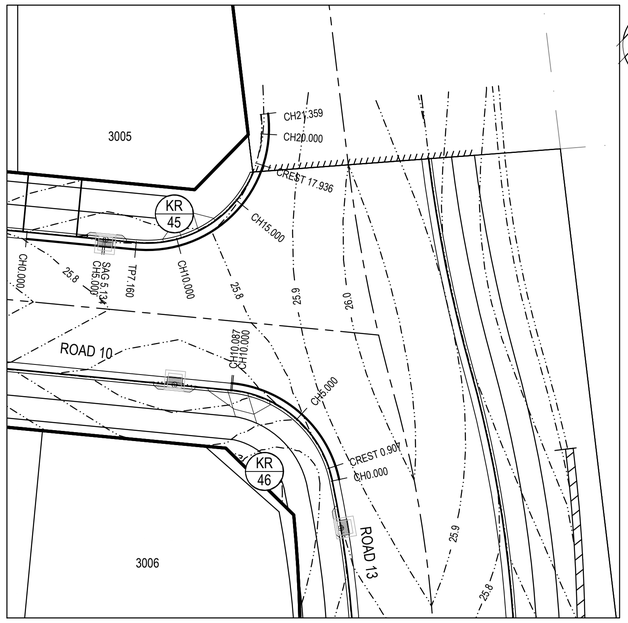
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Drawing Number: CV-CARDNO-S02-1502
Revision: 3

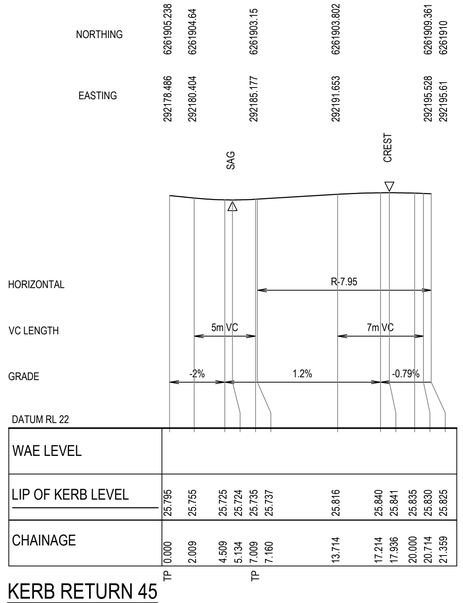
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Version: 1, Version Date: 16/03/2022

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DATE PLOTTED: 17 August 2021 5:17 PM BY: JOSHUA BEZZINA

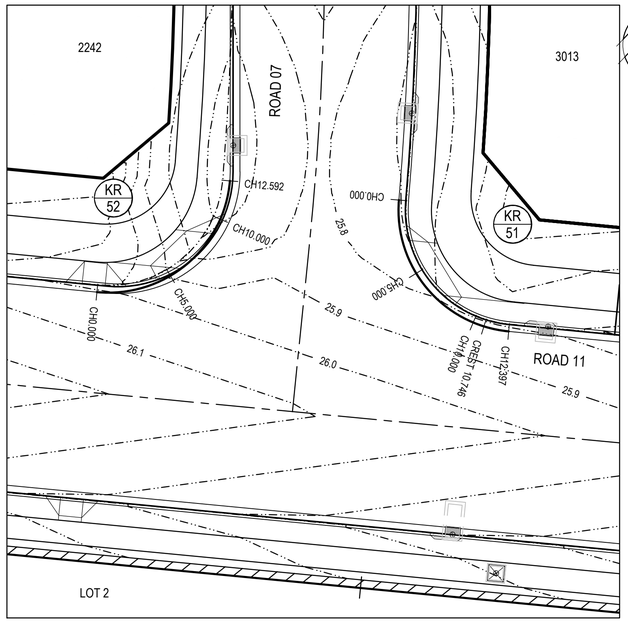


ROAD 010 AND ROAD 13 INTERSECTION

SCALE 1:200



| | | |



ROAD 07 AND ROAD 11 INTERSECTION

SCALE 1:200

NORTHING	6261893.532			6261887.519				6261883.662		
EASTING	292078.629			292079.225				292083.876		
						CREST				
HORIZONTAL			R-7.95							
VC LENGTH		6.2m VC			6.2m VC					
GRADE		0.45%		1.93%		-0.7%				
DATUM RL 22										
WAE LEVEL										
LIP OF KERB LEVEL	25.713	25.738		25.786		25.826	25.830	25.824		
CHAINAGE	0.000	3.099		6.198		9.297	10.746	12.397		

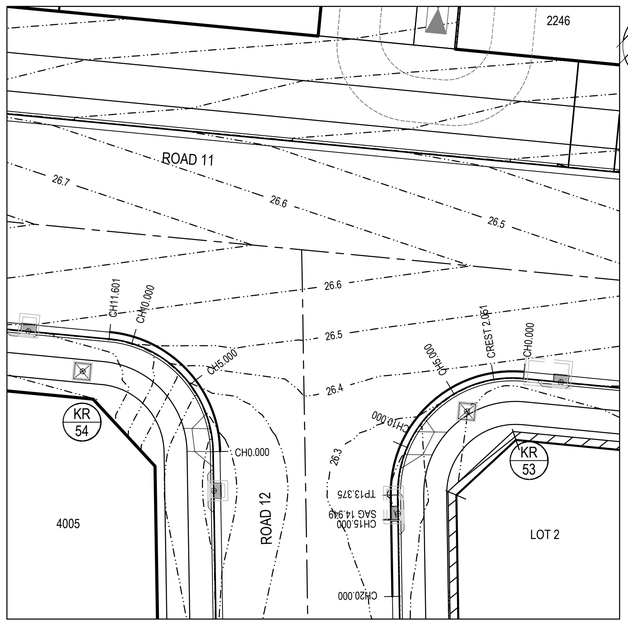
KERB RETURN 51

1:250 HORI.
1:50 VERT.

NORTHING	6261891.707			6261892.279				6261897.027		
EASTING	292058.101			292064.207				292068.089		
HORIZONTAL			R-7.95							
VC LENGTH		6.3m VC			6.3m VC					
GRADE		-0.7%		-5.14%		-0.38%				
DATUM RL 22										
WAE LEVEL										
LIP OF KERB LEVEL	26.013	25.996		25.830		25.705	25.696			
CHAINAGE	0.000	3.148		6.296		9.444	12.592			

KERB RETURN 52

1:250 HORI.
1:50 VERT.



ROAD 11 AND ROAD 12 INTERSECTION

SCALE 1:200

NORTHING	6261894.573			6261892.71				6261884.934		6261881.989
EASTING	292004.955			291997.071				291994.092		291993.523
			CREST			SAG				
HORIZONTAL			R-7.95							
VC LENGTH		8.5m VC			8.5m VC					
GRADE		0.7%		-2.2%		0.7%				
DATUM RL 23										
WAE LEVEL										
LIP OF KERB LEVEL	26.375	26.382		26.373		26.311	26.248	26.244	26.240	26.247	26.268
CHAINAGE	0.000	2.051		4.250		8.500	12.750	13.375	14.949	17.000	20.000
							TP				

KERB RETURN 53

1:250 HORI.
1:50 VERT.

NORTHING	6261893.571			6261899.158				6261902.669		
EASTING	291984.456			291983.475				291979.02		
HORIZONTAL			R-7.95							
VC LENGTH		5.8m VC			5.8m VC					
GRADE		0.89%		5.86%		0.7%				
DATUM RL 23										
WAE LEVEL										
LIP OF KERB LEVEL	26.179	26.241		26.375		26.507	26.565			
CHAINAGE	0.000	2.900		5.800		8.700	11.601			

KERB RETURN 54

1:250 HORI.
1:50 VERT.

Rev.	Date	Description	Des.	Verif.	Appd.
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2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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0 1 2 3 4 5m
SCALE 1:50 @A1
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Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: ROAD INTERSECTION PLAN
SHEET 4 OF 6

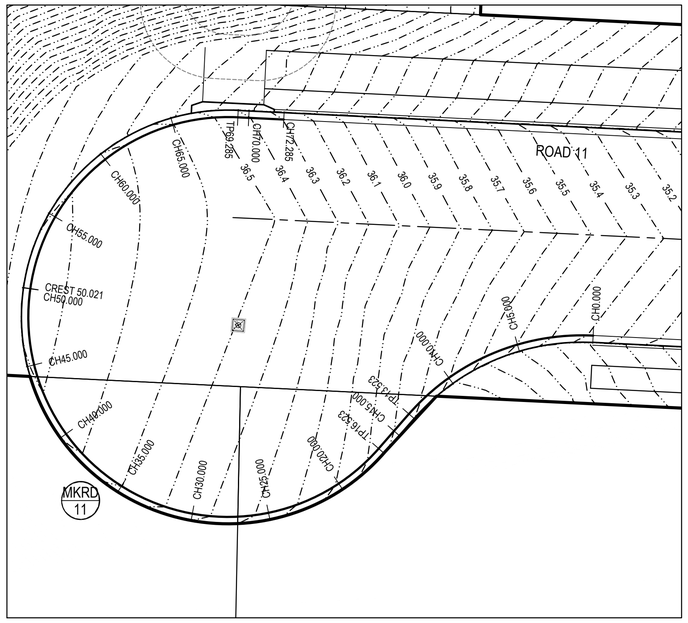
Status: FOR APPROVAL
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Datum	Date	Scale	Size
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Drawing Number: CV-CARDNO-S02-1504
Revision: 3

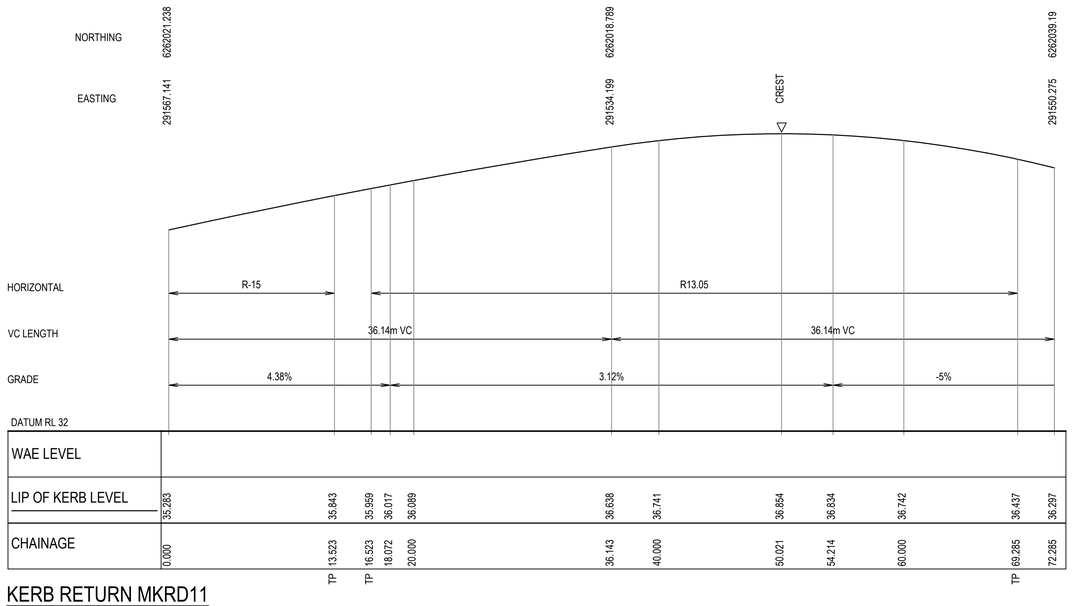
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Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022



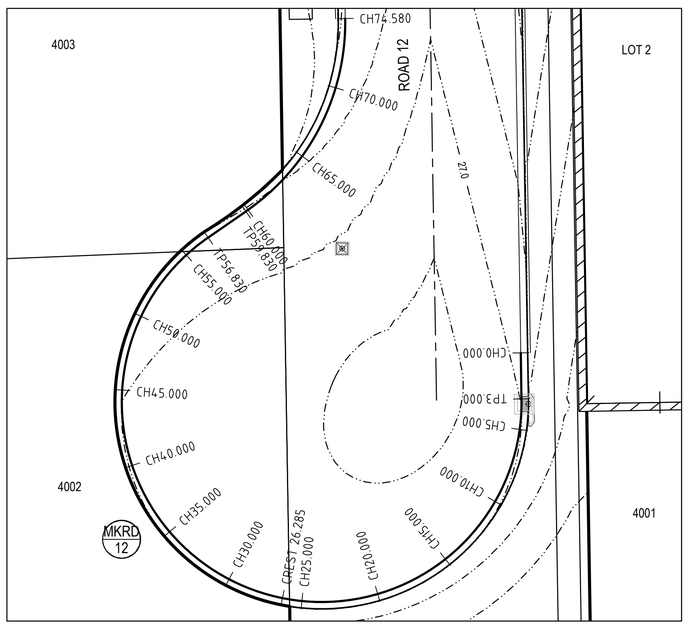
ROAD 11 TEMPORARY TURNING HEAD

SCALE 1:200



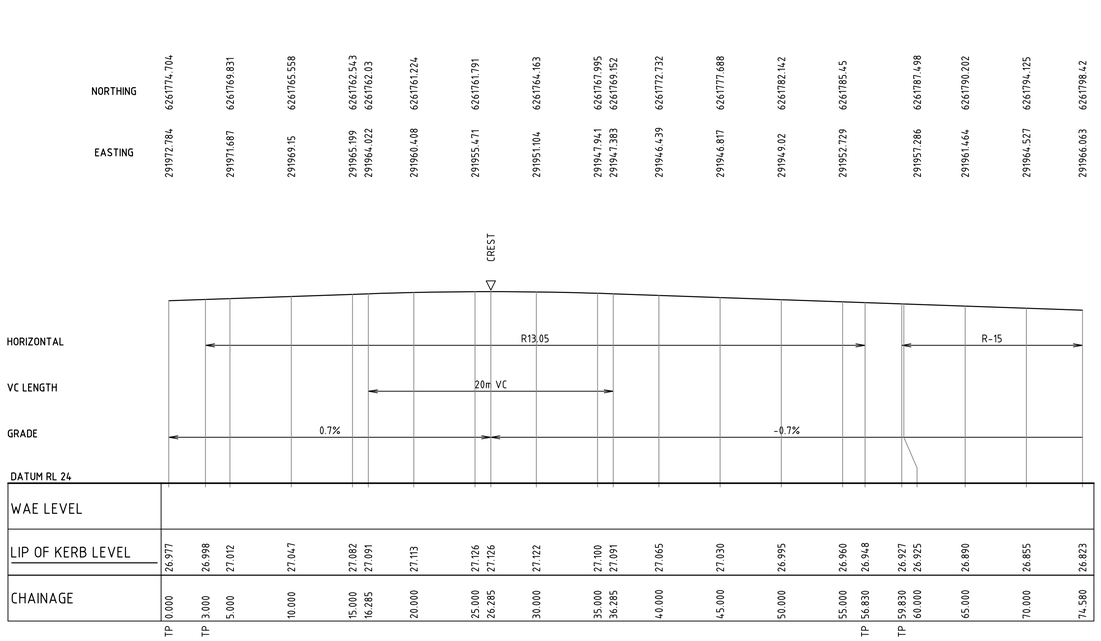
KERB RETURN MKRD11

1:250 HORI.
1:50 VERT.



ROAD 12 TEMPORARY TURNING HEAD

SCALE 1:200



KERB RETURN MKRD12

1:250 HORI.
1:50 VERT.

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
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SCALE 1:200 @A1
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SCALE 1:250 @A1

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Client: LENDLEASE
Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE
Title: ROAD INTERSECTION PLAN
SHEET 5 OF 6

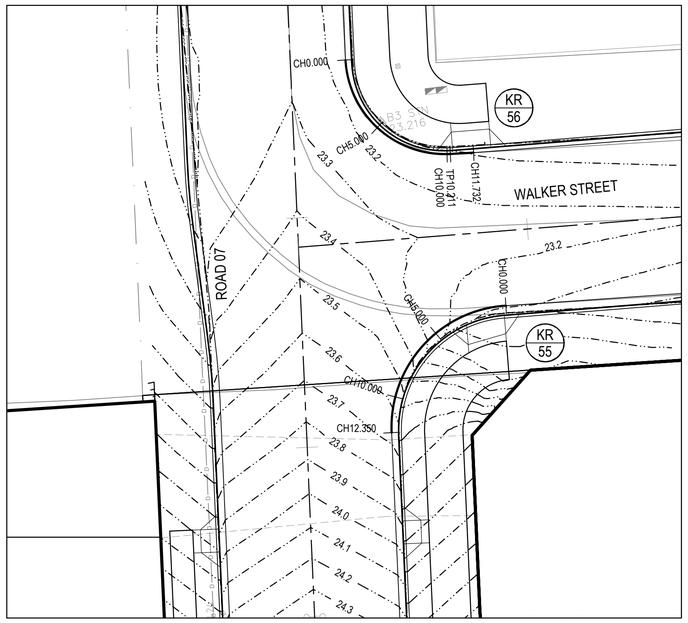
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Datum	Date	Scale	Size
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Drawing Number: CV-CARDNO-S02-1505
Revision: 3

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Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022



ROAD 7 AND WALKER STREET

SCALE 1:200

	NORTHING	EASTING
CH0.000	6262152.738	292133.57
CH5.000	6262151.294	292127.724
CH12.350	6262146.167	292124.568

HORIZONTAL: R=7.95

VC LENGTH: 6.18m VC | 6.18m VC

GRADE: 0.25% | 6.92% | 4.02%

DATUM RL 20

WAE LEVEL					
LIP OF KERB LEVEL	23.109	23.168	23.331	23.522	23.668
CHAINAGE	0.000	3.088	6.175	9.263	12.350

KERB RETURN KR55

1:250 HORI.
1:50 VERT.

	NORTHING	EASTING
CH0.000	6262170.591	292126.622
CH8.113	6262163.824	292130.073
TP9.863	6262162.966	292133.445
CH11.732	6262162.948	292133.563

HORIZONTAL: R=6.5

VC LENGTH: 3.5m VC

GRADE: -0.31% | -1.72%

DATUM RL 20

WAE LEVEL					
LIP OF KERB LEVEL	23.158	23.133	23.121	23.097	23.095
CHAINAGE	0.000	8.113	9.863 (TP)	10.211	11.613	11.732

KERB RETURN KR56

1:250 HORI.
1:50 VERT.

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

SCALE 1:50 @A1 (0 1 2 3 4 5m / 0 5 10 15 20m)

SCALE 1:200 @A1 (0 5 10 15 20 25m)

SCALE 1:250 @A1

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Drawn	WP	30/07/2021
Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: ROAD INTERSECTION PLAN
SHEET 6 OF 6

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

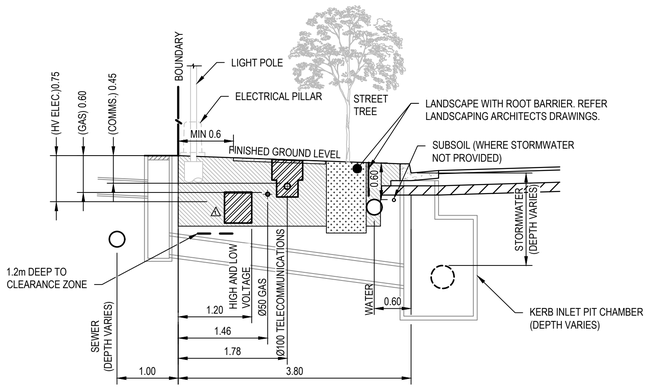
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Drawing Number: CV-CARDNO-S02-1506

Revision: 3

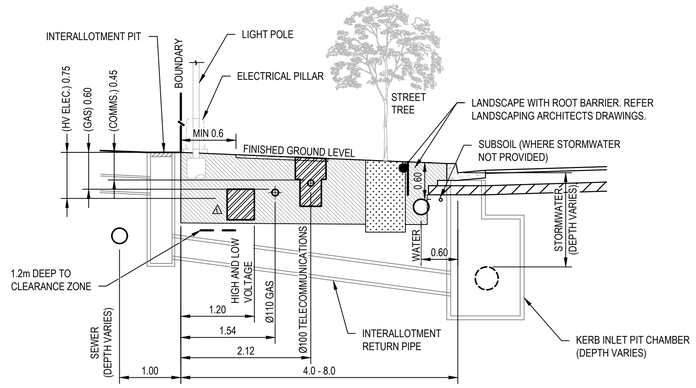
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DATE PLOTTED: 17 August 2021 5:18 PM BY: JOSHUA BEZZINA

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022



TYPICAL LOCAL ROAD SERVICES TRENCH EXCAVATION

SCALE 1:50



TYPICAL COLLECTOR ROAD SERVICES TRENCH EXCAVATION

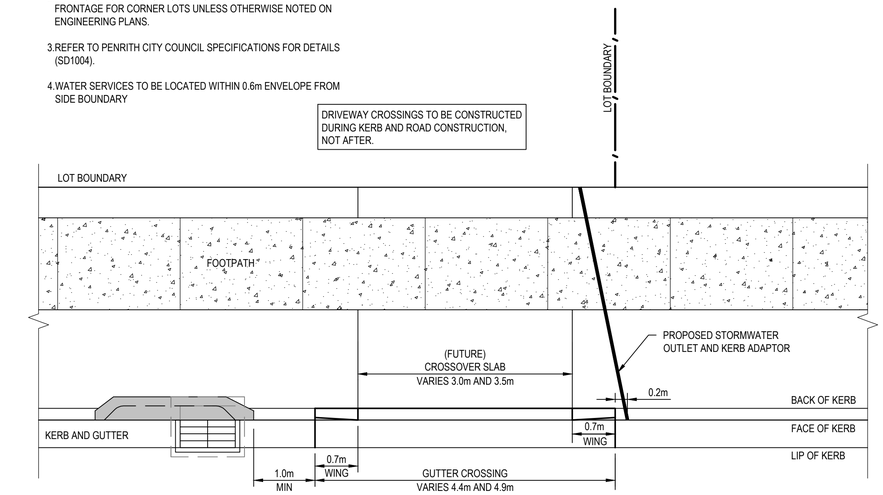
SCALE 1:50

NOTE

1. FINAL SERVICES ALLOCATION TO BE COORDINATED WITH SERVICES AUTHORITIES.

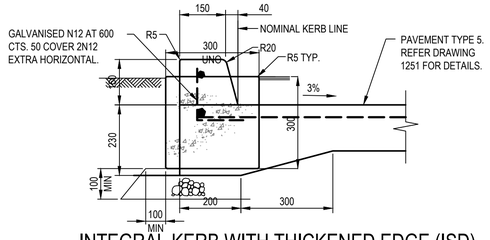
NOTE:

1. DRAINAGE PITS, TREES, COMMS AND OTHER UTILITIES (EXCEPT PILLARS AND ELECTRICAL COLUMN) TO BE LOCATED MINIMUM 1.0m FROM EDGE OF DRIVEWAY.
2. LAYBACKS TO BE CONSTRUCTED ON PRIMARY DRIVEWAY FRONTAGE FOR CORNER LOTS UNLESS OTHERWISE NOTED ON ENGINEERING PLANS.
3. REFER TO PENRITH CITY COUNCIL SPECIFICATIONS FOR DETAILS (SD1004).
4. WATER SERVICES TO BE LOCATED WITHIN 0.6m ENVELOPE FROM SIDE BOUNDARY



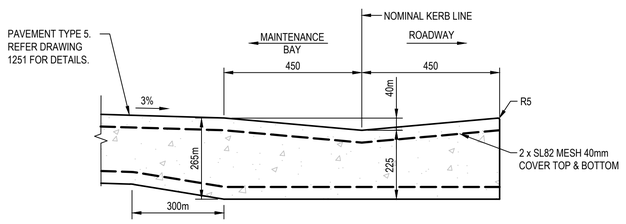
TYPICAL DRIVEWAY LOCATION DETAIL

SCALE 1:50



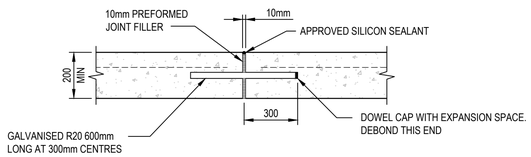
INTEGRAL KERB WITH THICKENED EDGE (ISD)

SCALE 1:10



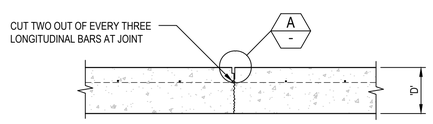
INTEGRAL DISH DRAIN (IDD)

SCALE 1:10



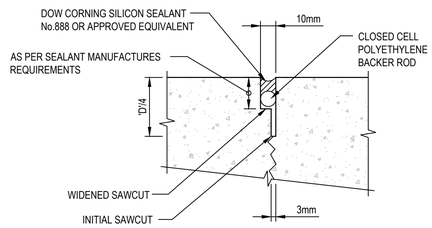
DOWELED EXPANSION JOINT (DEJ)

SCALE 1:10



TRANSVERSE CONTRACTION JOINT (TCJ)

SCALE 1:10



DETAIL A

NTS

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

SCALE 1:20 @A1

SCALE 1:50 @A1

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Tel: 02 9496 7700 Fax: 02 9439 5170
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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SITEWORKS DETAILS
SHEET 1 OF 2

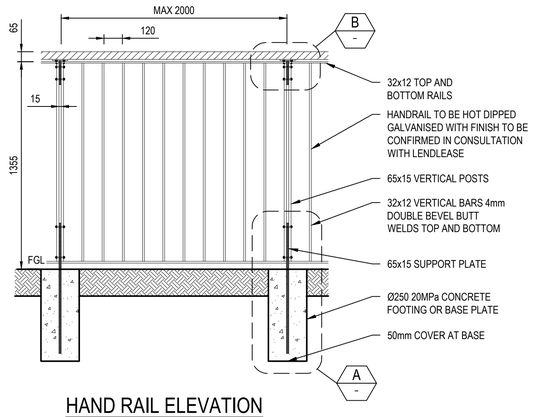
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NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
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Drawing Number: CV-CARDNO-S02-1601

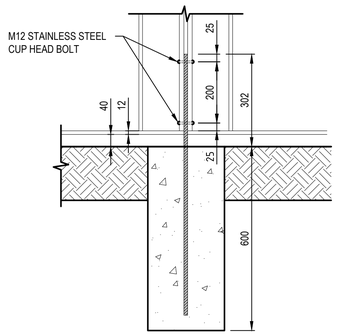
Revision: 3

DATE PLOTTED: 17 August 2021 5:19 PM BY - JOSHUA BEZZINA
XREFs: XR-80219053-001-1AB-CC-CI-LOGO; XR-80219053-CI-LOT LAYOUT; XR-89914020-35-CI-DRAINAGE; XR-80219053-001-2-4-CC-CI-Stw; XR-80219053-001-2-4-CC-CI-ROAD; XR-80219053-001-2-4-CC-CI-CONTROL; XR-80219053-001-2-4-CC-CI-CONTROL
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Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022



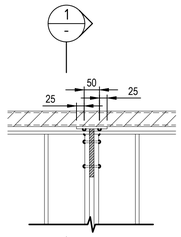
HAND RAIL ELEVATION

SCALE 1:20



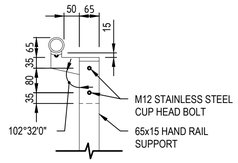
DETAIL A

SCALE 1:10



DETAIL B

SCALE 1:10



SECTION 1

SCALE 1:10

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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SCALE 1:250 @A1

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Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SITEWORKS DETAILS
SHEET 2 OF 2

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	1:250	A1

Drawing Number: CV-CARDNO-S02-1602

Revision: 3

XREF's: XR-80219053-001-1AB-CC-CI-LOGO; XR-80219053-CI-LOT LAYOUT; XR-89914020-35-CI-DRAINAGE; XR-80219053-001-2-4-CC-CI-Stw; XR-80219053-001-2-4-CC-CI-ROAD; XR-80219053-001-2-4-CC-CI-PAVEMENT; XR-80219053-001-2-4-CC-CI-CONTROL; XR-80219053-CI-LOT LAYOUT; XR-89914020-35-CI-DRAINAGE; XR-80219053-001-2-4-CC-CI-Stw; XR-80219053-001-2-4-CC-CI-ROAD; XR-80219053-001-2-4-CC-CI-OSD-PLAN; XR-80219053-CI-SURVEY
CAD File: \\cardno.corp\global\AUNSW\Directory\Structure\Projects\802\2FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\CC\02 Stage 2-4\CV-CARDNO-S02-1601-1602-DWG(1).dwg
DATE PLOTTED: 17 August 2021 5:20 PM BY: JOSHUA BEZZINA

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 18 August 2021 11:43 AM BY: JOSHUA BEZZINA

PAVEMENT LEGEND

- PAVEMENT TYPE 1 — REFER TO DRG. 1251 FOR DETAIL
- PAVEMENT TYPE 2 — REFER TO DRG. 1251 FOR DETAIL
- PAVEMENT TYPE 3 — REFER TO DRG. 1251 FOR DETAIL
- PAVEMENT TYPE 4 — REFER TO DRG. 1251 FOR DETAIL
- PAVEMENT TYPE SP1 — REFER TO DRG. 1251 FOR DETAIL
- PEDESTRIAN FOOTPATH — AS PER PENRITH CITY COUNCIL STANDARD

NOTE

PAVEMENT DESIGNS AS PER STS GEOENVIRONMENTAL PAVEMENT INVESTIGATION REPORT NO 17/0451



Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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SCALE 1:500 @A1

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Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: PAVEMENT PLAN
SHEET 1 OF 3

Status: FOR APPROVAL
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Datum	Date	Scale	Size
AHD	Jul' 2021	1:500	A1

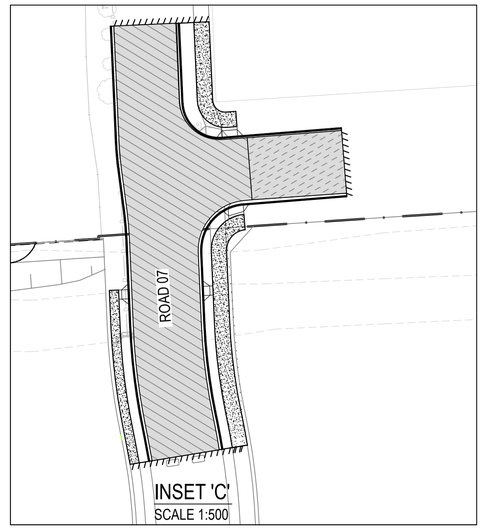
Drawing Number: CV-CARDNO-S02-1701
Revision: 3

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Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 18 August 2021 11:43 AM BY: JOSHUA BEZZINA

JOINS INSET 'C'



NORTH

ROAD 06 ROAD 01 ROAD 07 ROAD 10 ROAD 11 ROAD 12 ROAD 13

2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 (RESIDUE) 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 (RESIDUE) 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2256 2257 2258

3001 (RESIDUE) 3002 3003 3004 3005 3006 3007 3008 3009 3010 3011 3012 3013 3014 3015 3016 3017 3018 3019 3020 3021 3022 3023

3902 3903 3904 3905 3906 3907 3908

4005 4006

LOT 2 (CONT.)

JOINS DRG. 1701

JOINS DRG. 1703

JOINS DRG. 1703

PAVEMENT LEGEND

- PAVEMENT TYPE 1 — REFER TO DRG. 1251 FOR DETAIL
- PAVEMENT TYPE 2 — REFER TO DRG. 1251 FOR DETAIL
- PAVEMENT TYPE 3 — REFER TO DRG. 1251 FOR DETAIL
- PAVEMENT TYPE 4 — REFER TO DRG. 1251 FOR DETAIL
- PAVEMENT TYPE SP1 — REFER TO DRG. 1251 FOR DETAIL
- PEDESTRIAN FOOTPATH — AS PER PENRITH CITY COUNCIL STANDARD

NOTE

PAVEMENT DESIGNS AS PER STS GEOENVIRONMENTAL PAVEMENT INVESTIGATION REPORT NO 17/0451

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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SCALE 1:500 @A1

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Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: PAVEMENT PLAN
SHEET 2 OF 3

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
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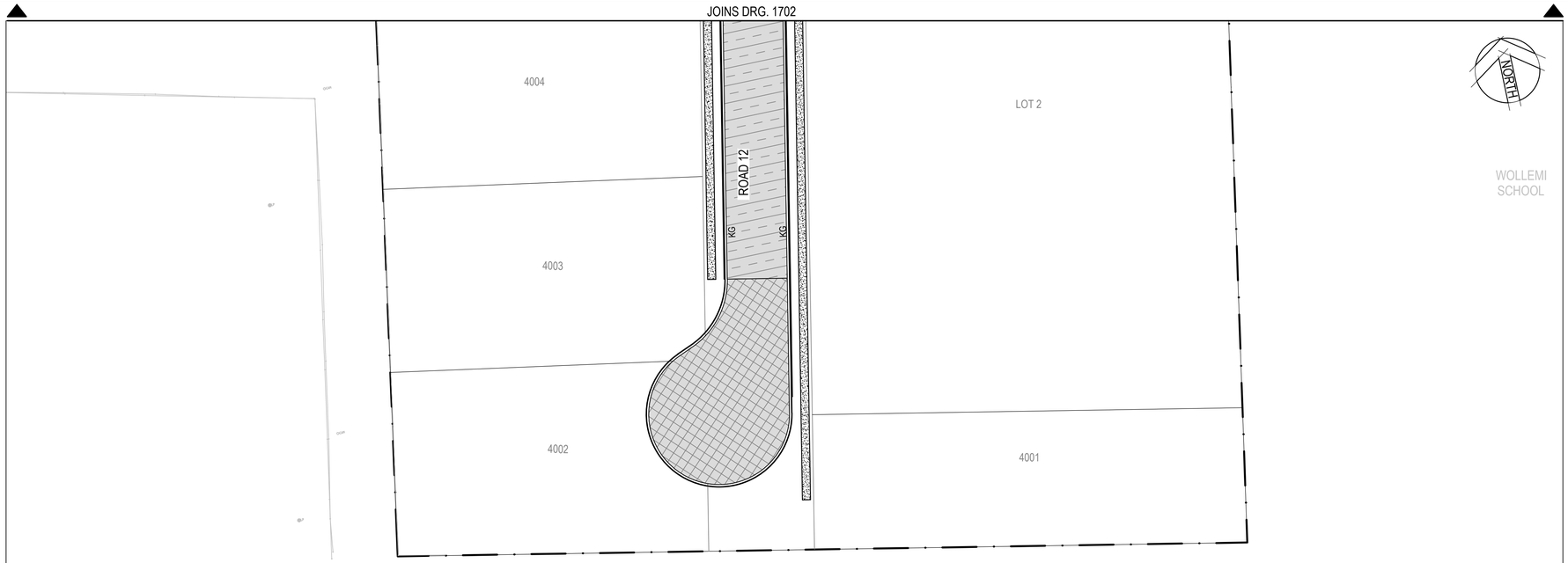
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Revision: 3

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Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 18 August 2021 11:44 AM BY : JOSHUA BEZZINA

JOINS DRG. 1702



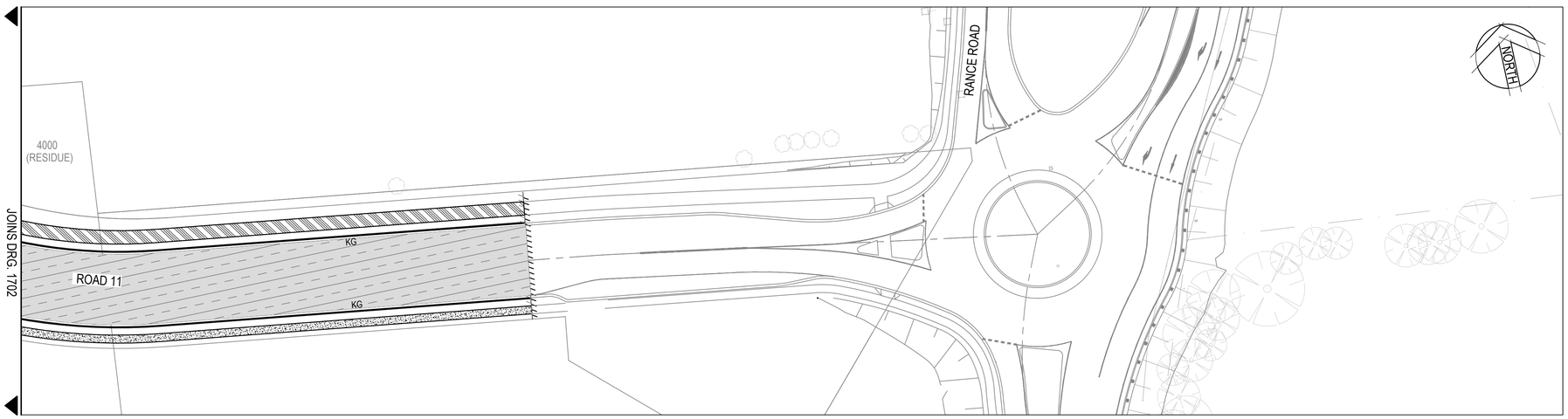
PAVEMENT LEGEND

- PAVEMENT TYPE 1 — REFER TO DRG. 1251 FOR DETAIL
- PAVEMENT TYPE 2 — REFER TO DRG. 1251 FOR DETAIL
- PAVEMENT TYPE 3 — REFER TO DRG. 1251 FOR DETAIL
- PAVEMENT TYPE 4 — REFER TO DRG. 1251 FOR DETAIL
- PAVEMENT TYPE SP1 — REFER TO DRG. 1251 FOR DETAIL
- PEDESTRIAN FOOTPATH — AS PER PENRITH CITY COUNCIL STANDARD

NOTE

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JOINS DRG. 1702



Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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SCALE 1:500 @A1

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Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: PAVEMENT PLAN
SHEET 3 OF 3

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	1:500	A1

Drawing Number: CV-CARDNO-S02-1703

Revision: 3

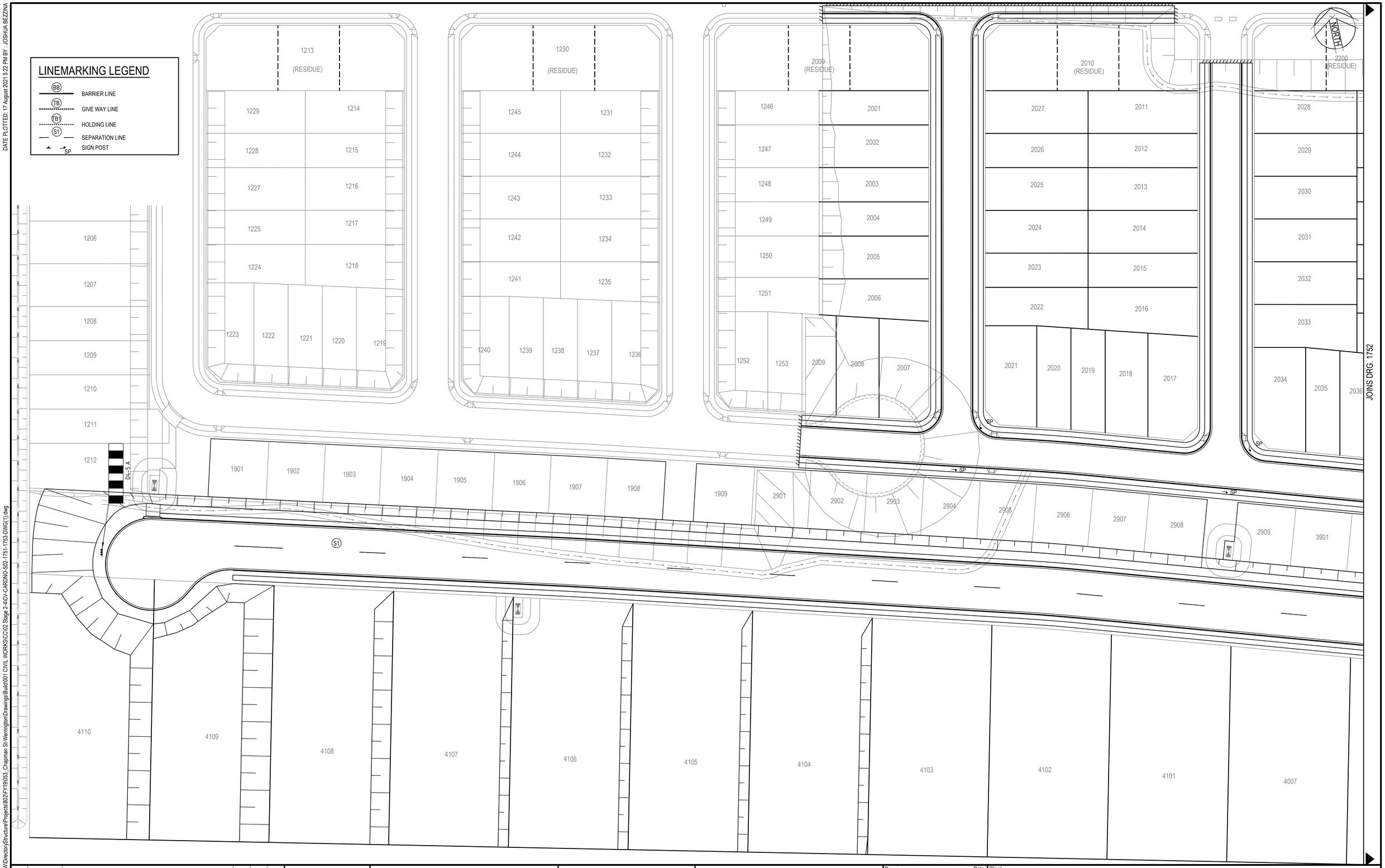
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Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 17 August 2021 5:22 PM BY - JOSHUA BEZZINA

LINEMARKING LEGEND

- BB — BARRIER LINE
- TB — GIVE WAY LINE
- TB1 — HOLDING LINE
- S1 — SEPARATION LINE
- SP — SIGN POST



JOINS DRG. 1752

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
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Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SIGNAGE AND LINEMARKING PLAN
SHEET 1 OF 3

Status: FOR APPROVAL
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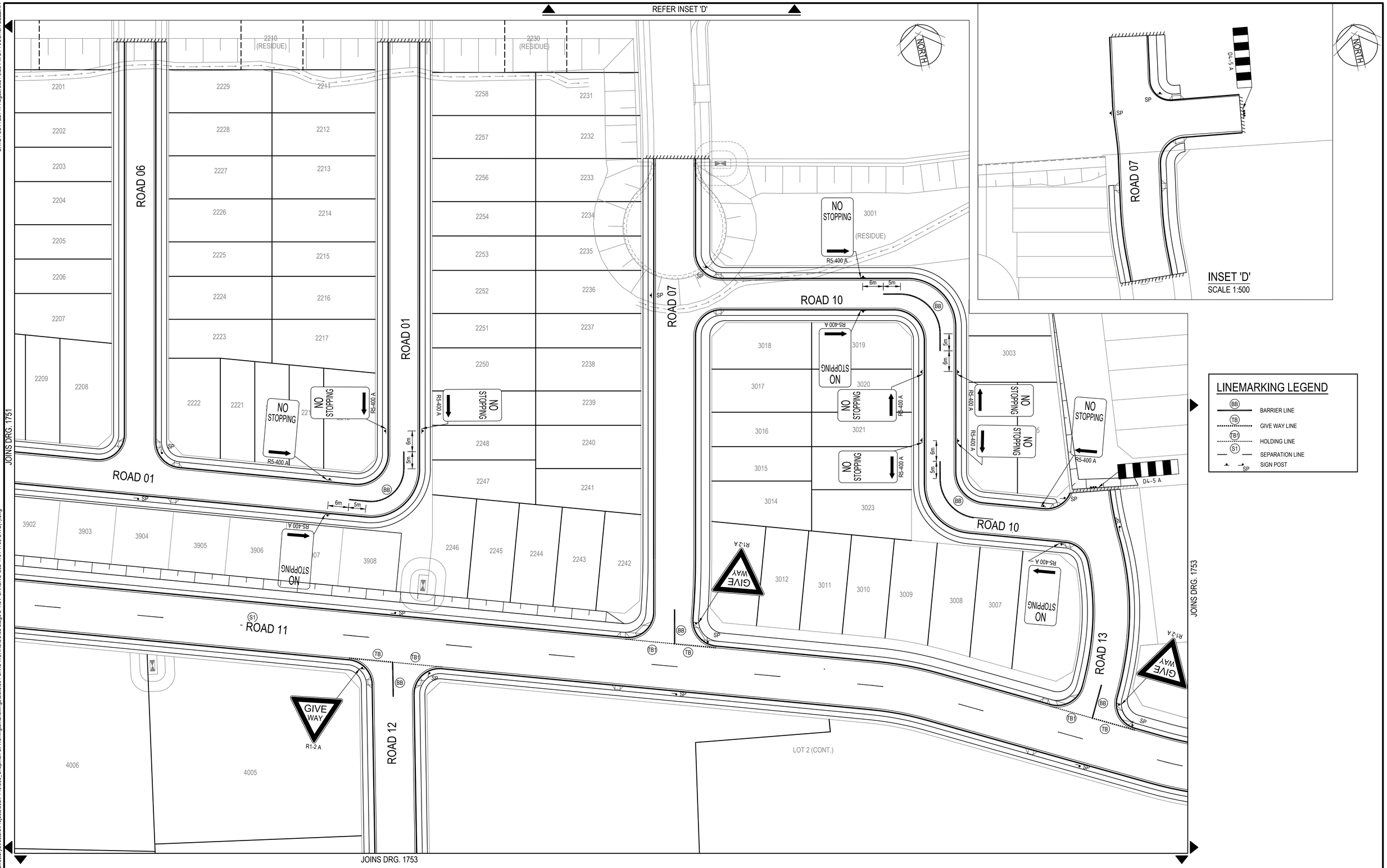
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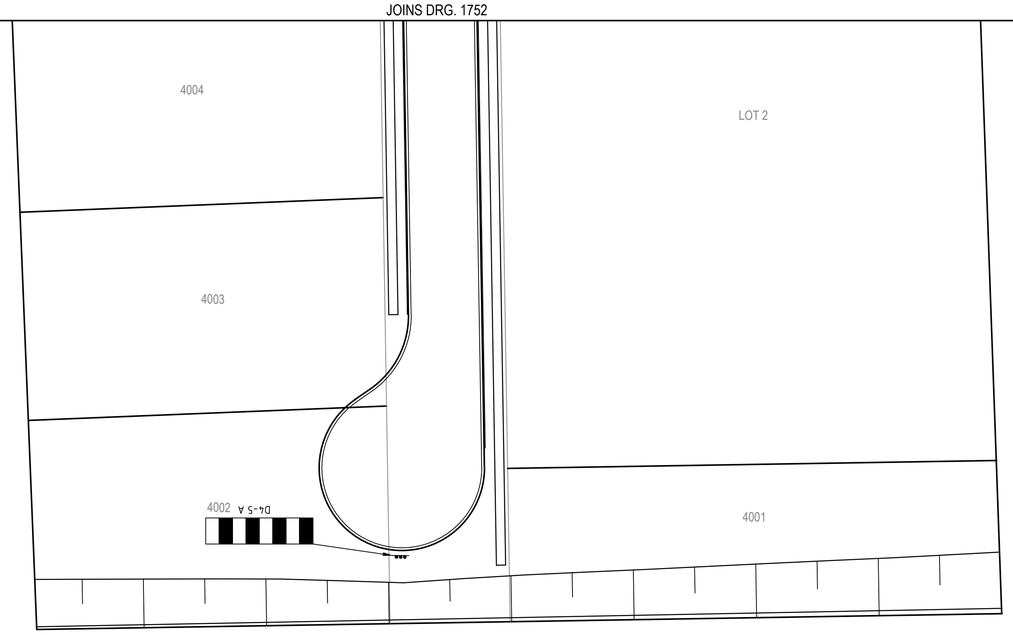
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JOINS DRG. 1752

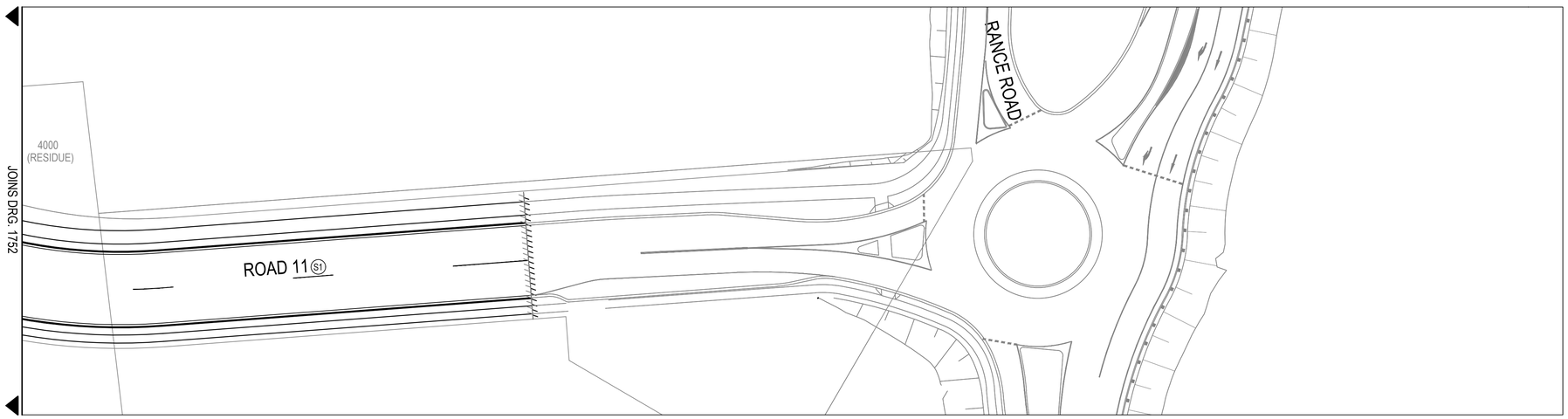




LINEMARKING LEGEND

- BB — BARRIER LINE
- TB — GIVE WAY LINE
- TB1 — HOLDING LINE
- S1 — SEPARATION LINE
- SP — SIGN POST

JOINS DRG. 1752



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SUBDIVISION WORKS CERTIFICATE

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SHEET 3 OF 3

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UNIVERSITY OF WESTERN SYDNEY

EXISTING WORKS

NORTH

1089 (RESIDUE)

2259 (RESIDUE)

2259 (RESIDUE)

3000

SYDNEY WATER

3001 (RESIDUE)

2000 (RESIDUE)

2010 (RESIDUE)

2200 (RESIDUE)

2210 (RESIDUE)

2230 (RESIDUE)

ROAD 01

ROAD 04

ROAD 05

ROAD 06

ROAD 07

ROAD 10

ROAD 11

ROAD 12

ROAD 13

RANCE ROAD

RW03

RW04

RW14

RW16

4000 (RESIDUE)

LOT 2

LOT 2 (CON)

TP254.376

TP476.740

TP476.303

TP476.383

WOLLEMI SCHOOL

CH0.000

CH3.000

CH50.000

CH100.000

CH150.000

CH200.000

CH250.000

CH300.000

CH350.000

CH400.000

CH450.000

CH500.000

CH522.246

CH527.247

CH77.155

CH223.999

CH229.551

CH104.783

CH157.436

CH163.130

CH202.107

CH25.018

CH553.083

LEGEND

SINGLE CONCRETE SLEEPER WALL
LENGTH - 832m

2m HIGH BLOCKWORK RETAINING WALL
LENGTH - 531m

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STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

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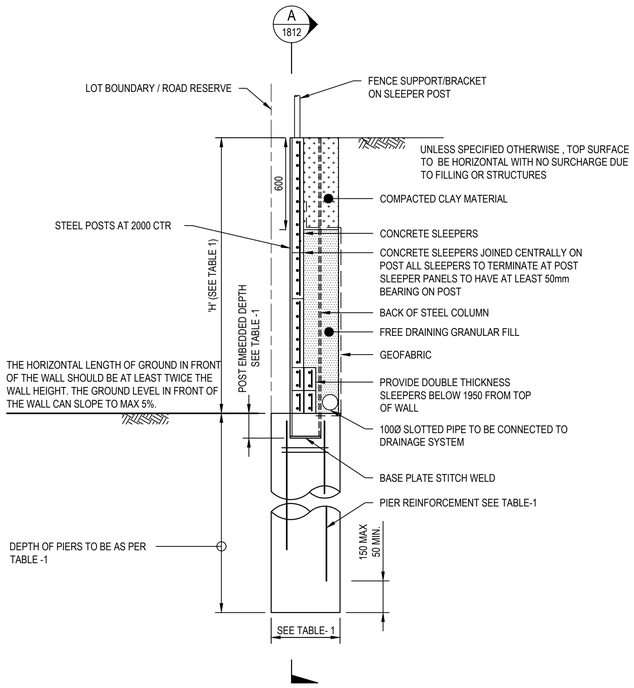
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TYPICAL SINGLE CONCRETE SLEEPER WALL

NOT TO SCALE

NOTES

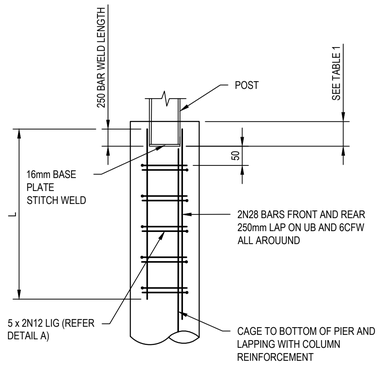
1. FOR SLEEPER PANEL DETAILS REFER CONCRIB TECHNICAL DRAWING 'CONCRIB SLEEPERWALL 2020 SYSTEM DETAILS S3'

TABLE 1 - CONCRETE SINGLE SLEEPER RETAINING WALL - MEMBER SCHEDULE (SEE ASSUMPTIONS* BELOW)

SLEEPER WALL TYPE	SOIL HEIGHT TO BE RETAINED H(m)	HOT DIP GALVANISED STEEL POST AT MAX 2.0m CENTRES	POST EMBEDDED DEPTH IN CONCRETE PIER (m)	SPIGOT DETAILS	BORED PILE DIA (mm) (SEE DETAILS A TO D FOR REINFORCEMENT)	FRONT REINFORCEMENT DEPTH (L) mm	BORED PILE DEPTH (m) - SEE NOTE 1	BORED PILE VERTICAL REINFORCEMENT
1	0-1m	150UC23 (2x200PFC AT CORNERS)	0.2m	2-M20 8.8/S GALVANISED BOLTS. 550x150x12 PLATES 2-OFF ON BOTH SIDES OF THE STEEL POST WEB (6 THICK FILLER PLATE WELDED TO TOP OF THE STEEL POST), 6CFW TO UB POST	450	0.3	2.5	4N16 WITH N12-300 SPIRALS
2	1-2m	200UC46 (2x200PFC AT CORNERS)	0.4m		600	0.9	4.0	6N16 WITH N12-300 SPIRALS
3	2-3m	250UC73 (2x250PFC AT CORNERS)	0.7m		750	2.4	6.5m (OR MINIMUM 3.2m SOCKET LENGTH, IN CLASS IV SHALE WHICH EVER ENCOUNTER FIRST	8N16 WITH N12-300 SPIRALS

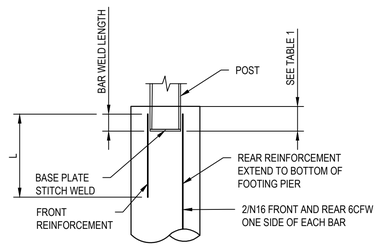
ASSUMPTIONS* : (SOIL PARAMETERS TBC BY GEOTECHNICAL ENGINEER ON SITE, BEFORE START OF CONCRETE POUR)

1. PILES ARE INSTALLED IN STIFF CLAY MIN Cu 50kPA) SHOULD WEAKER CLAY BE ENCOUNTER, DESIGNER NEED TO BE CONTACTED.
2. SURCHARGE BEHIND WALL: 5.0 kPa. THIS IS EQUIVALENT TO USE A HAND-TOOL COMPACTOR WITHIN 3m BEHIND THE WALL.
3. PRECAST CONCRETE SLEEPER TO BE DETAILED AND CERTIFIED BY CONCRIB



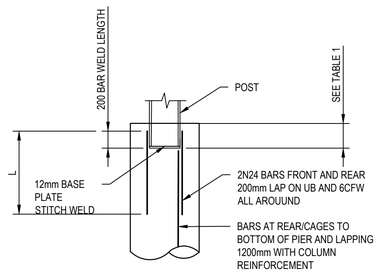
TYPICAL POST BASE DETAIL (H=2550-3000)

SCALE 1:20



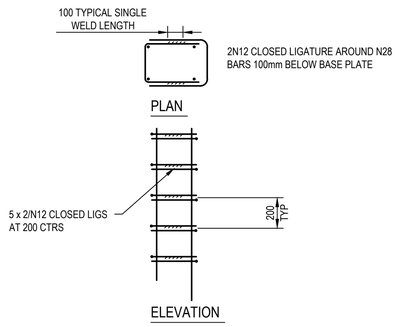
TYPICAL POST BASE DETAIL (H=0-1950)

SCALE 1:20



TYPICAL POST BASE DETAIL (H=2100-2400)

SCALE 1:20



DETAIL A N12 LIG (H=2550-3000)

SCALE 1:20

PILING NOTES:

1. ALL PILES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AS2159-2009.
2. THE PLACING OF CONCRETE IN PIERS SHALL BE CARRIED OUT IN ONE CONTINUOUS OPERATION UNLESS OTHERWISE SPECIFIED.
3. THE WORK INCLUDED COMPRISES THE SUPPLY AND INSTALLATION OF PIERS TO AS SHOWN ON THE DRAWINGS AND HEREIN DESCRIBED. ALL WORK TO BE CARRIED OUT BY AN EXPERIENCED SPECIALIST PILING CONTRACTOR.
4. ALL WORKMANSHIP AND MATERIALS SHALL COMPLY WITH THE LATEST EDITIONS OF AS2159 AND AS3600 CODES.
5. THE SITE PLAN AND DRAWINGS SHOW THE DIMENSIONS AND LEVELS OF THE SITE. THE MAIN CONTRACTOR WILL VERIFY THESE AND THEY SHALL ENGAGE A REGISTERED SURVEYOR TO DETERMINE ALL LINES AND LEVELS FOR THE PIERS. RESPONSIBILITY FOR THE CORRECT LEVELLING AND SETTING OUT OF THE PILE POSITIONS WITH RESPECT TO THESE GRID ALIGNMENTS WILL REST WITH THE PILING CONTRACTOR.
6. THE PILE EMBEDDED DEPTH SHALL BE FREE OF DEBRIS AND SLUSH AND SHALL COMPRISE OF NATURAL EXPOSED VERY STIFF CLAY SOIL OVER AT LEAST 90% OF THE PILE SOCKET BASE AREA.
7. THE PILE EXCAVATION SHALL BE INSPECTED BY THE GEOTECHNICAL ENGINEER IN ORDER TO VALIDATE THE ASSUMED GROUND CONDITIONS DEPICTED ON TABLE-1, EFFECTIVENESS OF THE PILE TOE/SOCKET CLEANING METHODS, AND CONFIRM THAT THE MINIMUM EMBEDDED LENGTH HAS BEEN ACHIEVED, PRIOR TO PLACEMENT OF REINFORCEMENT STEEL AND CASTING CONCRETE.
8. THE GEOTECHNICAL ENGINEER SHALL REVIEW THE ACTUAL PROFILE OF THE SOIL AND ADJUST THE FOUNDING LEVEL IF REQUIRED TO ACHIEVE THE DESIGN GEOTECHNICAL STRENGTH TO RESIST THE APPLIED STRUCTURAL LOADING. IF THE ADJUSTED TOE LEVEL PROPOSED FOR A PILE DIFFERS FROM THE VALUE GIVEN IN 'CFA PILE SCHEDULE' BY MORE THAN 1.0m, THE PILING CONTRACTOR SHALL CONTACT THE ENGINEER FOR ADVICE PRIOR TO COMMENCEMENT OF PILE CONSTRUCTION.

MASONRY RETAINING WALL NOTES

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3700 CURRENT EDITION EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS AND SPECIFICATIONS.
2. UNCONFINED COMPRESSIVE STRENGTH AND TYPE OF MORTAR SHALL BE AS FOLLOWS:

ELEMENT	UNCONFINED COMPRESSIVE STRENGTH (fuc)	MORTAR MIX RATIO (CEMENT : LIME : SAND)
CLAY BRICKWORK	20 MPa	1 : 1 : 6
CONCRETE BLOCKWORK	15 MPa	1 : 0.25 : 3
NOTE: MIX RATIO IS BY VOLUME AND SHALL ALWAYS BE MEASURED WITH A BUCKET OR GAUGE BOX.		

3. MORTAR SHALL BE MECHANICALLY MIXED AND TYPE M3 U.N.O. AND SHALL COMPLY WITH THE REQUIREMENTS OF AS3700.
4. MORTAR ADMIXTURES SHALL NOT BE USED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
5. PROVIDE TEMPORARY PROPPING TO WALLS DURING CONSTRUCTION IN ACCORDANCE WITH AS3700 AND THE WORK METHOD STATEMENT PREPARED BY THE BUILDER / CONTRACTOR.
6. ALL WALL FINISHES MUST BE JOINTED AT MASONRY CONTROL JOINTS TO PREVENT UNCONTROLLED CRACKS IN THE WALL FINISHES.
7. ALL WALLS SHALL BE FULLY BONDED OR TIED AT THEIR INTERSECTIONS UNLESS DETAILED OTHERWISE.
8. PROVIDE FULL DEPTH 10mm ABELFLEX OR EQUIVALENT AGAINST ALL VERTICAL SURFACES WHICH ARE USING MASONRY WALL AS FORMWORK U.N.O.
9. BRICKWORK AND UNREINFORCED BLOCKWORK SHALL BE ARTICULATED IN ACCORDANCE WITH PART 3.3 OF THE BUILDING CODE OF AUSTRALIA, UNLESS OTHERWISE DIRECTED BY ENGINEER.
10. PROVIDE WATERPROOF MEMBRANE & D.P.C. (DAMP PROOF COURSE) AS REQUIRED BY THE ARCHITECTURAL SPECIFICATION.
11. ALL STEELWORK PROJECTING INTO CAVITIES SHALL BE GALVANISED UNLESS NOTED OTHERWISE.

BRICKWORK

12. PROVIDE VERTICAL CONTROL JOINTS IN WALLS AT MAXIMUM 6 METRE CENTRES OR WHERE INDICATED OTHERWISE ON ARCHITECTURAL DRAWINGS.
13. PROVIDE CONTROL JOINTS IN BRICKWORK IN ACCORDANCE WITH "TECHNICAL NOTE 61 - AUG 2008" BY CEMENT, CONCRETE & AGGREGATES AUSTRALIA U.N.O.
14. ALL CLAY BRICKS USED EXTERNALLY MUST HAVE EXPOSURE CLASSIFICATION IN ACCORDANCE WITH THE ARCHITECT'S SPECIFICATION.

BLOCKWORK

15. PROVIDE VERTICAL CONTROL JOINTS IN WALLS AT MAXIMUM 8 METRE CENTRES OR WHERE INDICATED ON DRAWINGS.
16. PROVIDE 1 ROW OF 'CLEAN-OUT' BLOCKS TO ALL CORE-FILLED BLOCKWORK AT EVERY 2400 MAX VERTICAL CENTRES. ALL MORTAR AND DEBRIS IS TO BE REMOVED FROM CAVITY PRIOR TO PLACEMENT OF REINFORCEMENT AND CORE FILLING WITH GROUT.
17. CONCRETE COVER TO STEEL REINFORCEMENT WITHIN CORE-FILLED BLOCKWORK WALLS AS INDICATED INCLUDES THE WALL THICKNESS OF THE BLOCK. REFER TO TABLE MA1.1 BELOW FOR NOMINAL COVER TO THE RETAINING FACE OF BLOCKWORK WALLS U.N.O.
18. REINFORCEMENT PROJECTING FROM FOUNDATION OR SLABS INTO CORES, SHALL BE SET ACCURATELY IN PLACE USING TEMPLATES TO ALIGN WITH THE CENTRE OF THE LENGTH OF CORES AND WITH COVER AS NOTED. WHERE HORIZONTAL BARS ARE INDICATED, THE WEBS OF THE BLOCKS BELOW THE BARS SHALL BE CUT DOWN TO ACCOMMODATE THE BARS.
19. FOR BLOCK CORE FILLING CONCRETE QUALITY REFER TO TABLE MA1.1 BELOW. CONCRETE SHALL BE PLACED TO COMPLETELY FILL CORES WITHOUT SEGREGATION OR VOIDS. COMPACT BY INTERNAL VIBRATION OR RODDING AND STRENGTH TEST IN ACCORDANCE WITH THE MASONRY SPECIFICATION.
20. FILL CORES TO MAXIMUM 2400mm HIGH FREE DROP IN ANY ONE POUR. GROUT SHALL BE PLACED IN LIFTS OF 1200mm MAXIMUM AND COMPACTED BY POKER VIBRATOR. ALLOW 1 HOUR BETWEEN SUCCESSIVE LIFTS TO ALLOW PLASTIC SETTLEMENT TO OCCUR.
21. ALL AGRICULTURAL PIPES OR WEEPHOLES TO BE PROTECTED FROM SILTATION BY THE USE OF GEOFABRIC AND PROVIDED ON EARTH FACE OF ALL RETAINING WALLS AS NOTED IN THE DOCUMENTATION. AGRICULTURAL DRAINS TO BE CONNECTED TO THE STORMWATER SYSTEM TO HYDRAULIC ENGINEERS DETAILS.
22. BACKFILL RETAINING WALLS, ON ENGINEER'S APPROVAL, WITH CLEAN 20mm GRAVEL FILLING FREE FROM CLAY OR OTHER ORGANIC MATTER.

BLOCK CORE FILLING CONCRETE QUALITY & COVER - TABLE MA1.1

ELEMENT	SLUMP (MAX)	MAX. AGG. SIZE	CEMENT TYPE	STRENGTH GRADE	REBAR COVER
BLOCK RETAINING WALL	230	Ø10mm	SL	25MPa	65mm

MASONRY TIES

23. CAVITY WALL TIES SHALL COMPLY WITH AS3700 AND AS2699.1
24. AT VERTICAL CONTROL JOINTS PROVIDE MASONRY FLEXIBLE ANCHORS TYPE M.E.T. 3.3 AT 600mm CTS. AND A 20mm POLYTHENE FILLER WITH MASTIC SEALANT TO INTERIOR AND SILICONE SEALANT OF A SUITABLE COLOUR TO EXTERIOR ON UNPAINTED SURFACES.

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SHEET 1 OF 4

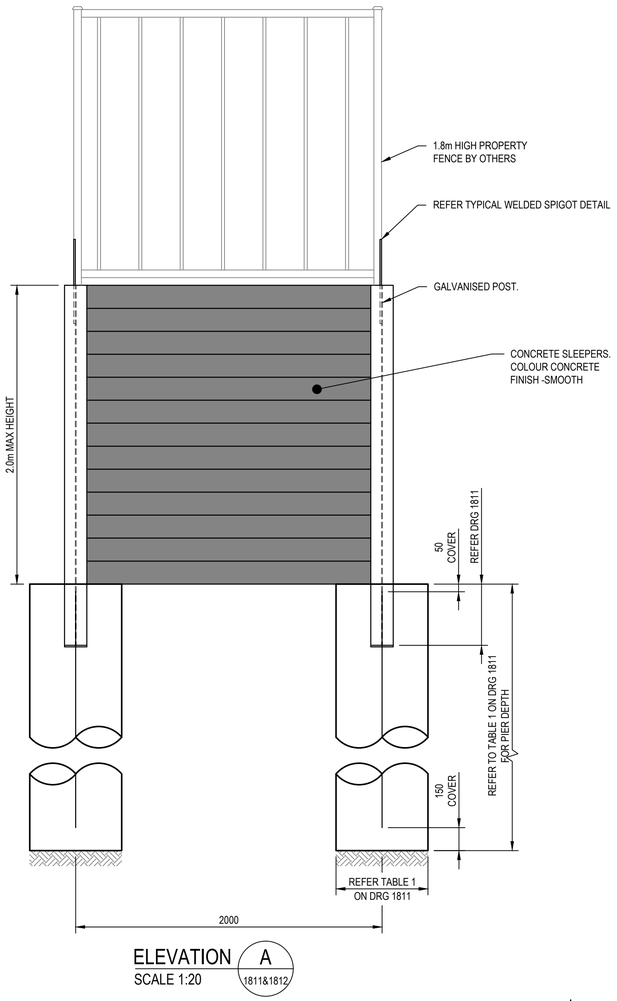
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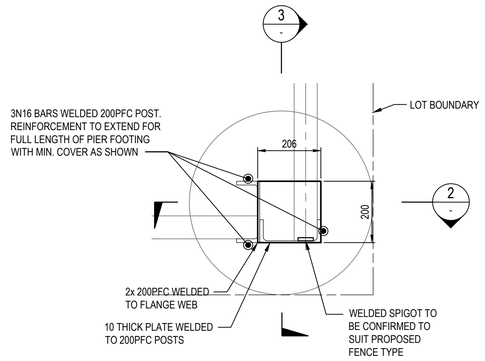
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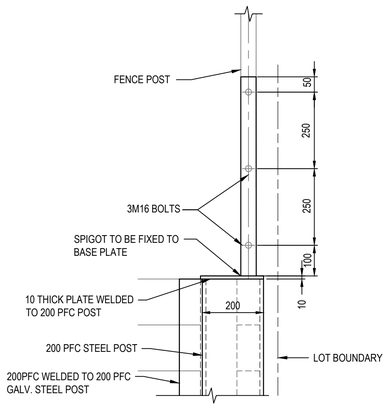
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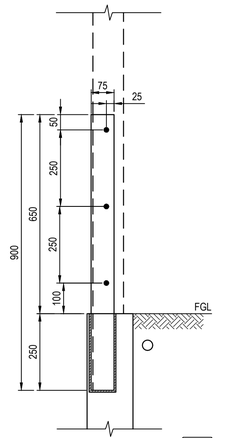
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DETAIL 1
SCALE 1:10



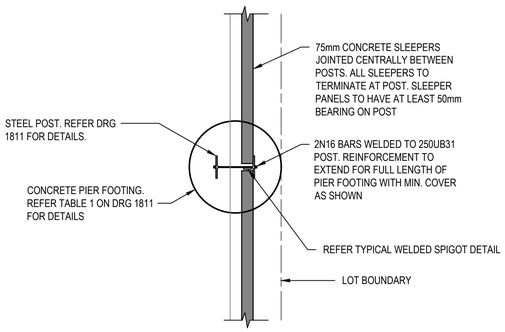
SECTION 2
SCALE 1:10



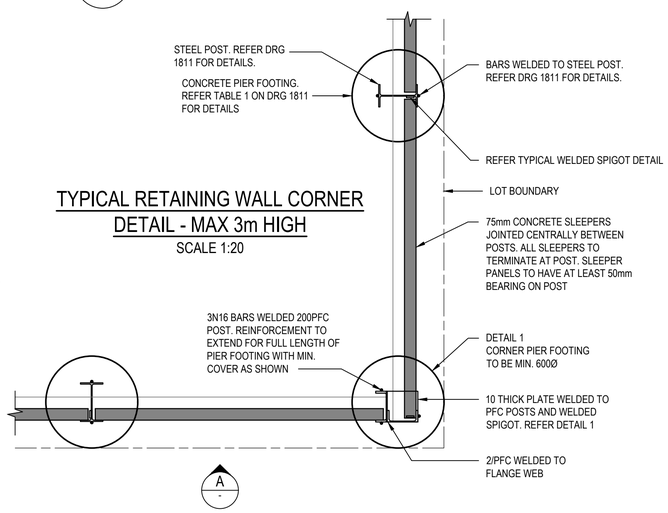
DETAIL 2
SCALE 1:10

TYPICAL FENCE SUPPORT
SCALE 1:10

SECTION 3
SCALE 1:10



SECTION 1
-



TYPICAL RETAINING WALL CORNER DETAIL - MAX 3m HIGH
SCALE 1:20

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

0 0.5 1 1.5 2 2.5m
SCALE 1:25 @A1
0 1 2 3 4 5m
SCALE 1:50 @A1

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		Date
Drawn	WP	30/07/2021
Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE
Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE
Title: RETAINING WALL DETAILS
SHEET 2 OF 4

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

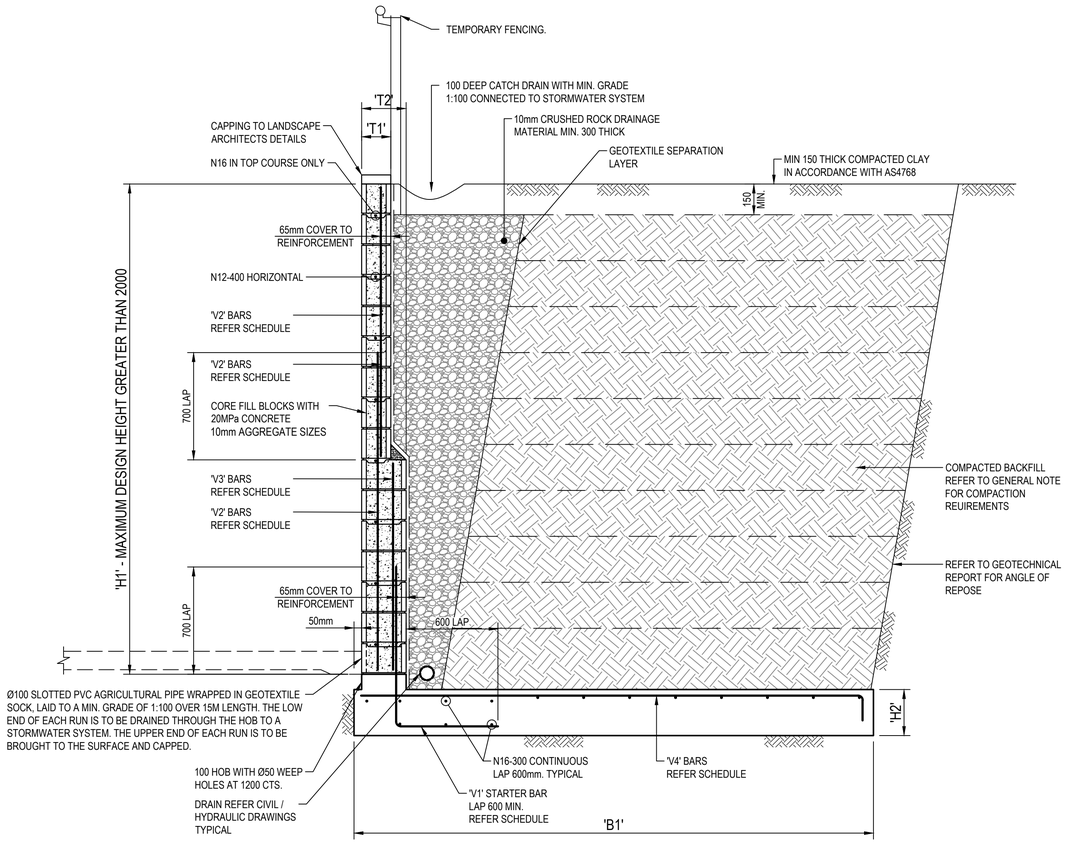
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Drawing Number: CV-CARDNO-S02-1812
Revision: 3

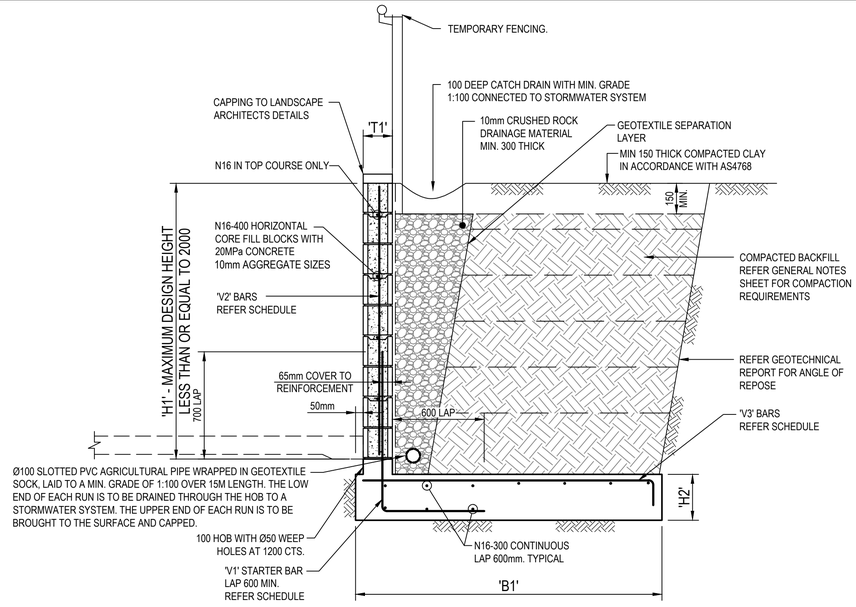
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Version: 1, Version Date: 16/03/2022

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TYPICAL SECTION



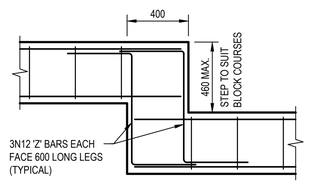
TYPICAL SECTION

REINFORCED BLOCK RETAINING WALL DETAIL

SCALE 1:20

NOTE

1. REFER CIVIL DRAWINGS FOR RETAINING WALL LOCATIONS AND EXTENT.
2. REFER GENERAL NOTES.
3. FOR FOOTING CONCRETE STRENGTH REFER TO CONCRETE NOTES.
4. ALL FOOTINGS TO BE FOUNDED IN STIFF CLAY WITH AN ALLOWABLE PRESSURE OF 150kPA. THIS FOUNDATIONS MATERIAL SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER PRIOR TO ANY REINFORCEMENT LAID.



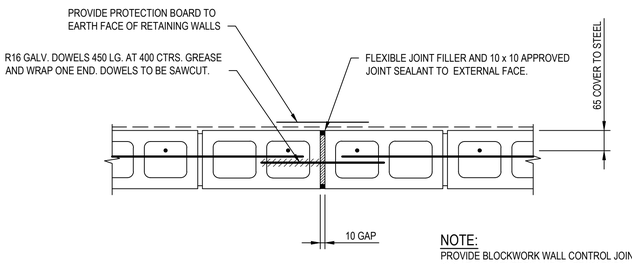
TYPICAL STRIP FOOTING STEP

SCALE 1:20

REINFORCED BLOCK RETAINING WALL SCHEDULE
LIVE LOAD VERTICAL SURCHARGE = 5 kPa

MAXIMUM BACKFILL SLOPE = 0 DEGREES
FOUNDATION CHARACTERISTIC FRICTION ANGLE = 30 DEGREES

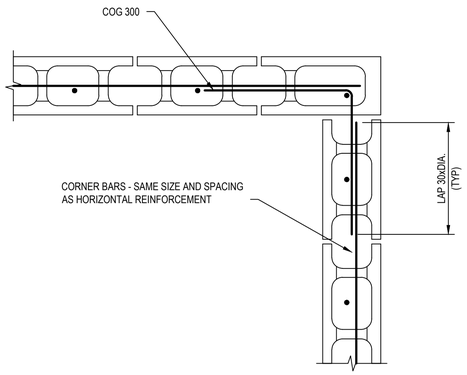
'H1'	'T1'	'T2'	'H2'	'B1'	REINFORCEMENT			
					'V1' BARS	'V2' BARS	'V3' BARS	'V4' BARS
800mm	140mm	-	250mm	800mm	N12-400	N12-400	N12-400	-
1000mm	140mm	-	250mm	900mm	N12-400	N12-400	N12-400	-
1200mm	140mm	-	250mm	1100mm	N12-400	N12-400	N12-400	-
1400mm	190mm	-	250mm	1200mm	N16-400	N16-400	N16-400	-
1600mm	190mm	-	250mm	1400mm	N16-400	N16-400	N16-400	-
1800mm	190mm	-	250mm	1500mm	N16-400	N16-400	N16-200	-
2000mm	190mm	290mm	350mm	1800mm	N16-400	N16-400	N16-400	N16-200
2200mm	190mm	290mm	350mm	1900mm	N16-400	N16-400	N16-400	N16-200
2400mm	190mm	290mm	350mm	2000mm	N16-200	N16-200	N16-400	N16-200
2600mm	190mm	290mm	350mm	2200mm	N16-200	N16-200	N16-400	N16-200
2800mm	190mm	290mm	350mm	2300mm	N16-200	N16-200	N16-400	N16-200
3000mm	190mm	290mm	350mm	2400mm	N16-200	N16-200	N16-400	N16-200
3200mm	190mm	290mm	350mm	2600mm	N20-200	N20-400	N20-240	N20-200
3400mm	190mm	290mm	350mm	2700mm	N20-200	N20-400	N20-400	N20-200



NOTE:
PROVIDE BLOCKWORK WALL CONTROL JOINTS (CJ) AT 10m CENTRES AND 5m FROM ENDS

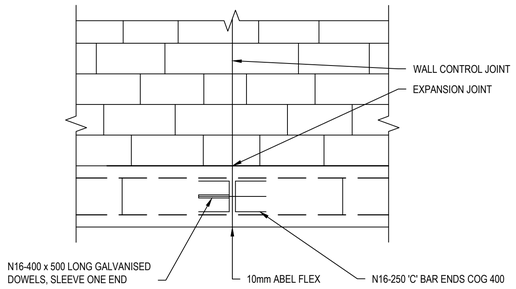
BLOCKWORK WALL CONTROL JOINT (CJ)

SCALE 1:10



BLOCKWORK WALL CORNER DETAIL

SCALE 1:10



TYPICAL JOINT FOR FOOTING ELEVATION ON BLOCK WALL

SCALE 1:10

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

SCALE 1:25 @A1
SCALE 1:50 @A1

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		Date
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Approved	MZ	30/07/2021

Client: LENDLEASE
Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE
Title: RETAINING WALL DETAILS
SHEET 3 OF 4

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

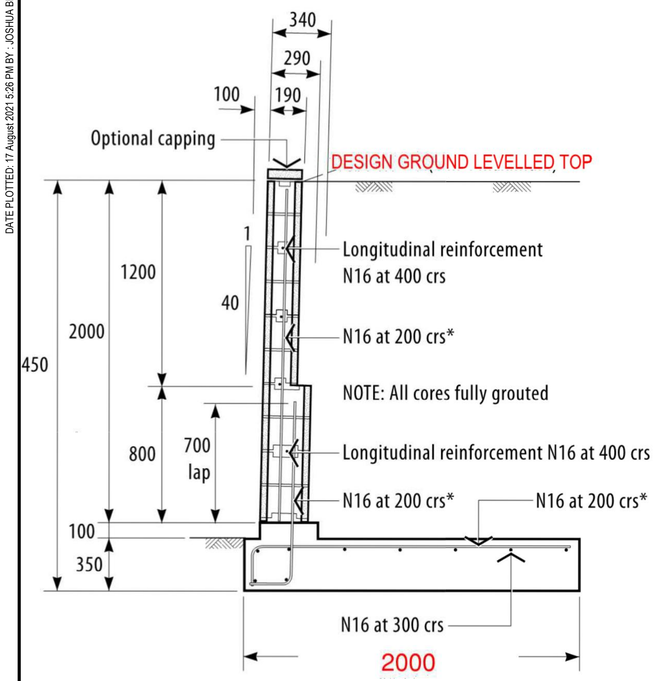
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AHD	Jul' 2021	AS SHOWN	A1

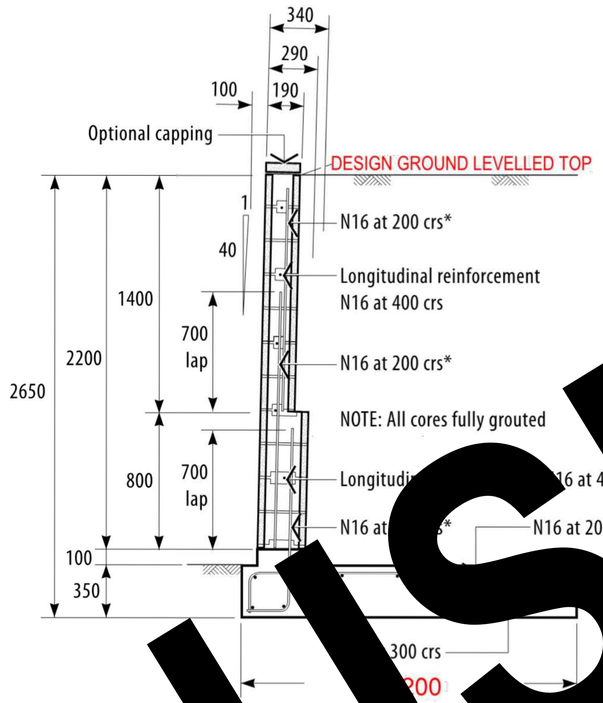
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Revision: 3

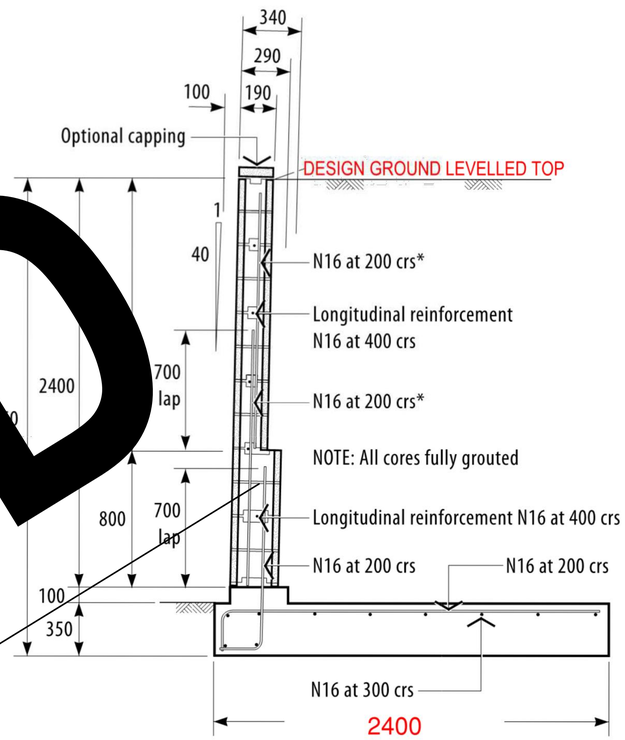
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Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 17 August 2021 5:26 PM BY: JOSHUA BEZZINA







NOT USED

BLOCKWORK RETAINING WALL DETAILS (1800<H<=2800

NOTES:
1. THE DESIGN IS ALSO APPLICABLE FOR VERTICAL WALLS.
2. REFER DRG-1813 FOR GENERAL DESIGN ASSUMPTIONS FOR BLOCKWORK RETAINING WALL.

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

lendlease

0 0.5 1 1.5 2 2.5m
SCALE 1:25 @A1
0 1 2 3 4 5m
SCALE 1:50 @A1

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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE
Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE
Title: RETAINING WALL DETAILS
SHEET 4 OF 4

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

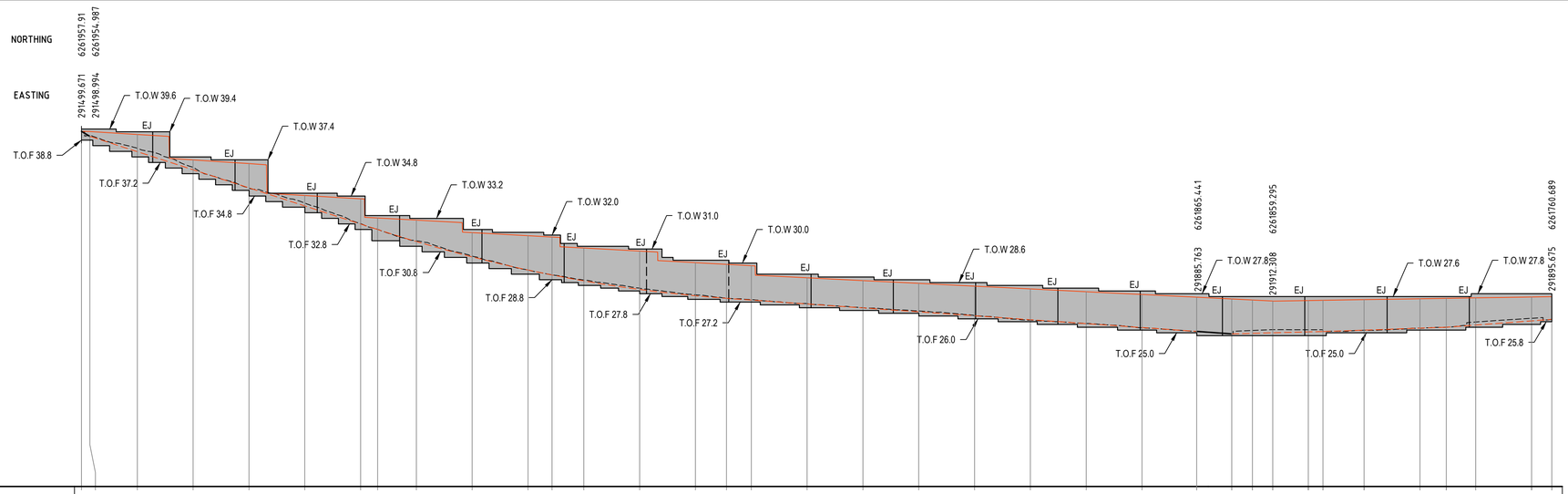
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Revision: 3

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Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

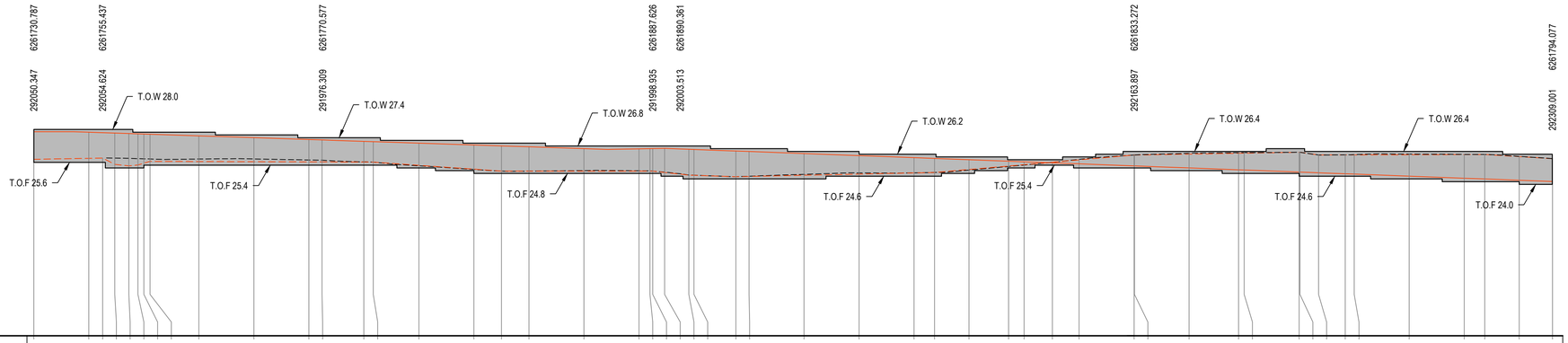
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DATUM RL 14

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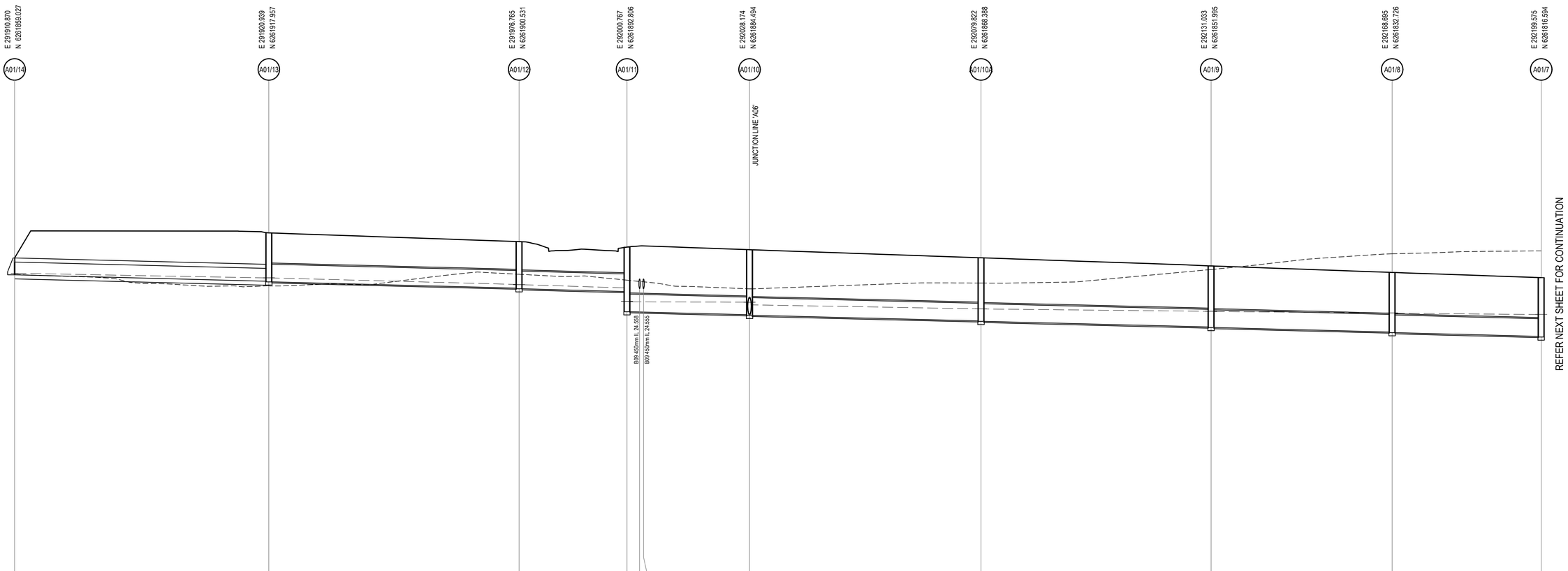
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DATUM RL 13

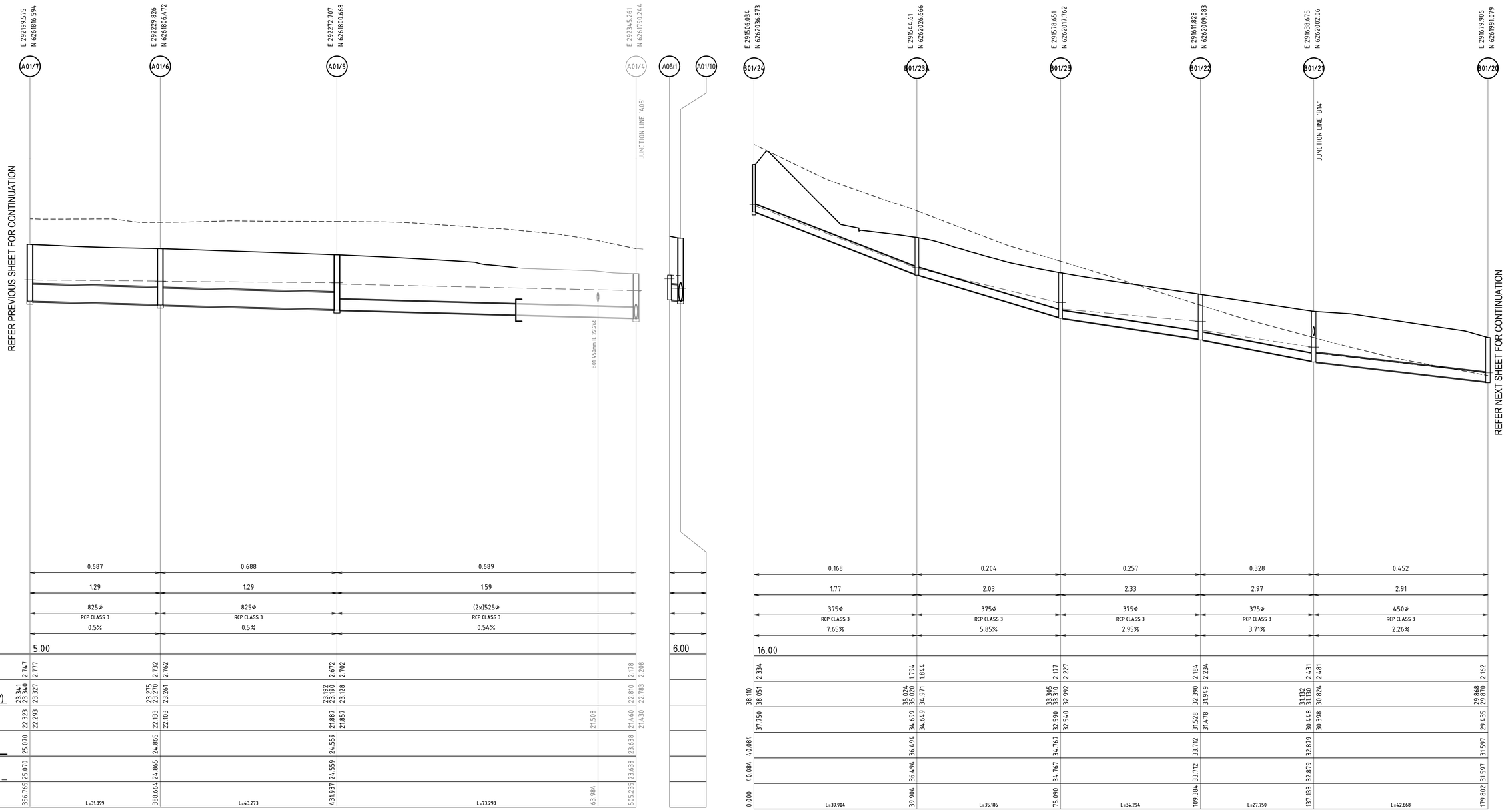
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LINE A01

LINE A06

LINE B01

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3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
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V: 0 2 4 6 8 10m
SCALE: H:1:500 V:1:100 @A1

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Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: STORMWATER LONGITUDINAL SECTIONS
SHEET 2 OF 12

Status: FOR APPROVAL
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Datum	Date	Scale	Size
AHD	Jul' 2021	AS SHOWN	A1

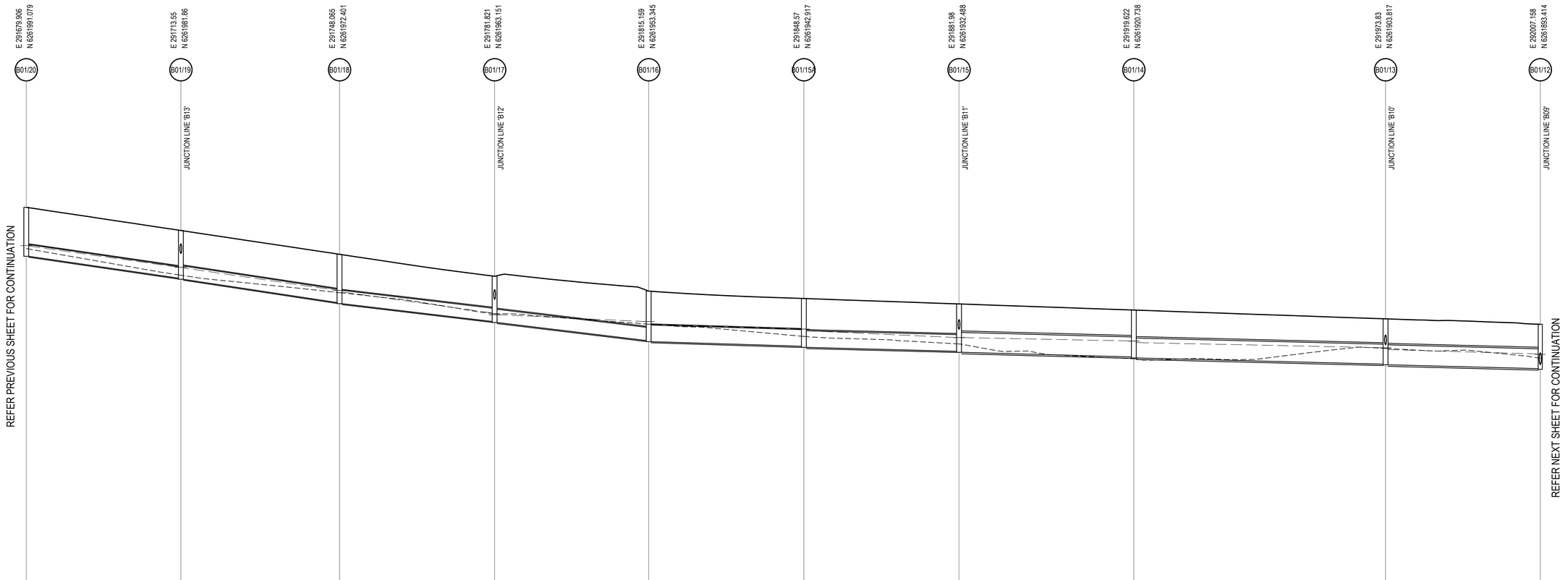
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Revision: 3

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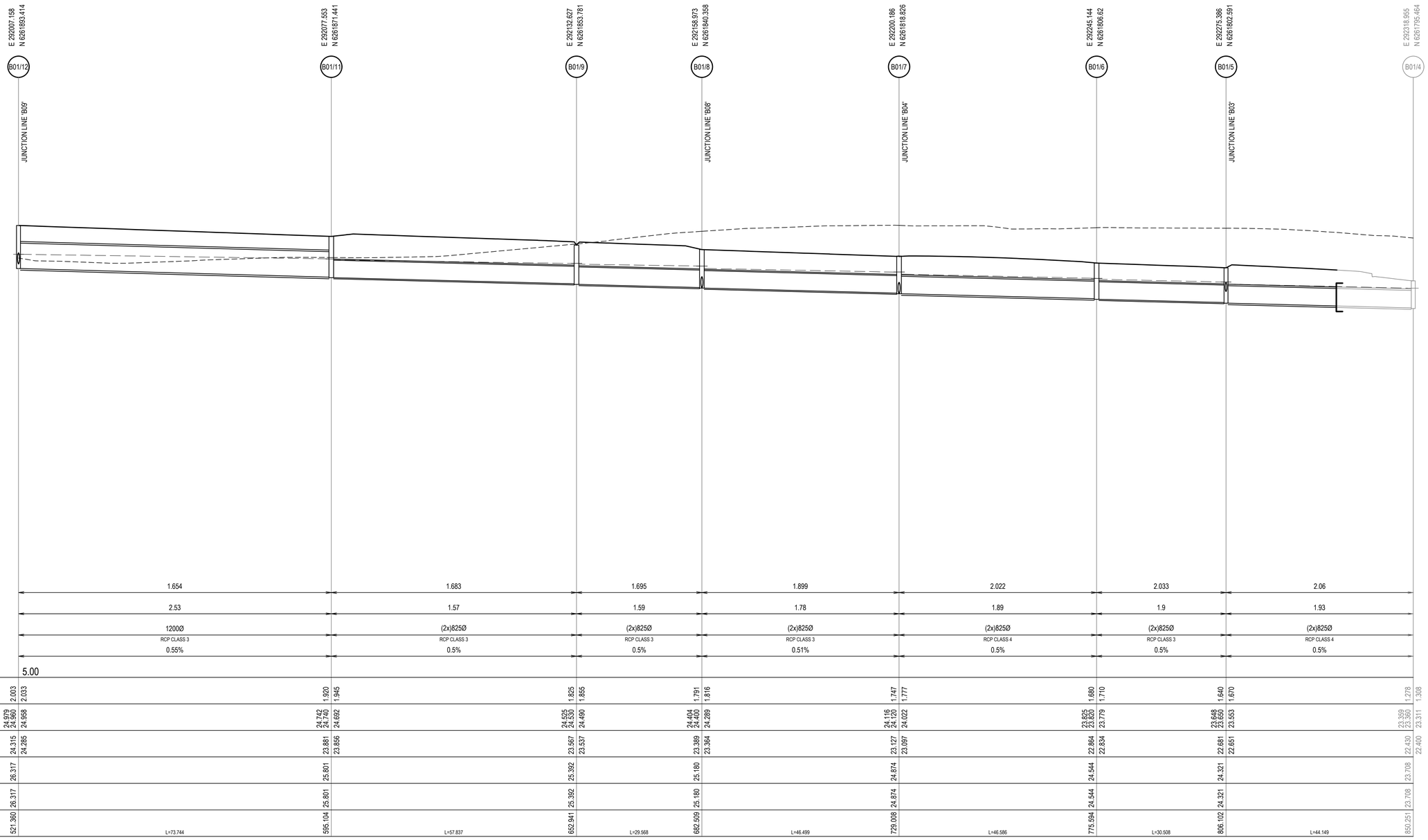
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Version: 1, Version Date: 16/03/2022

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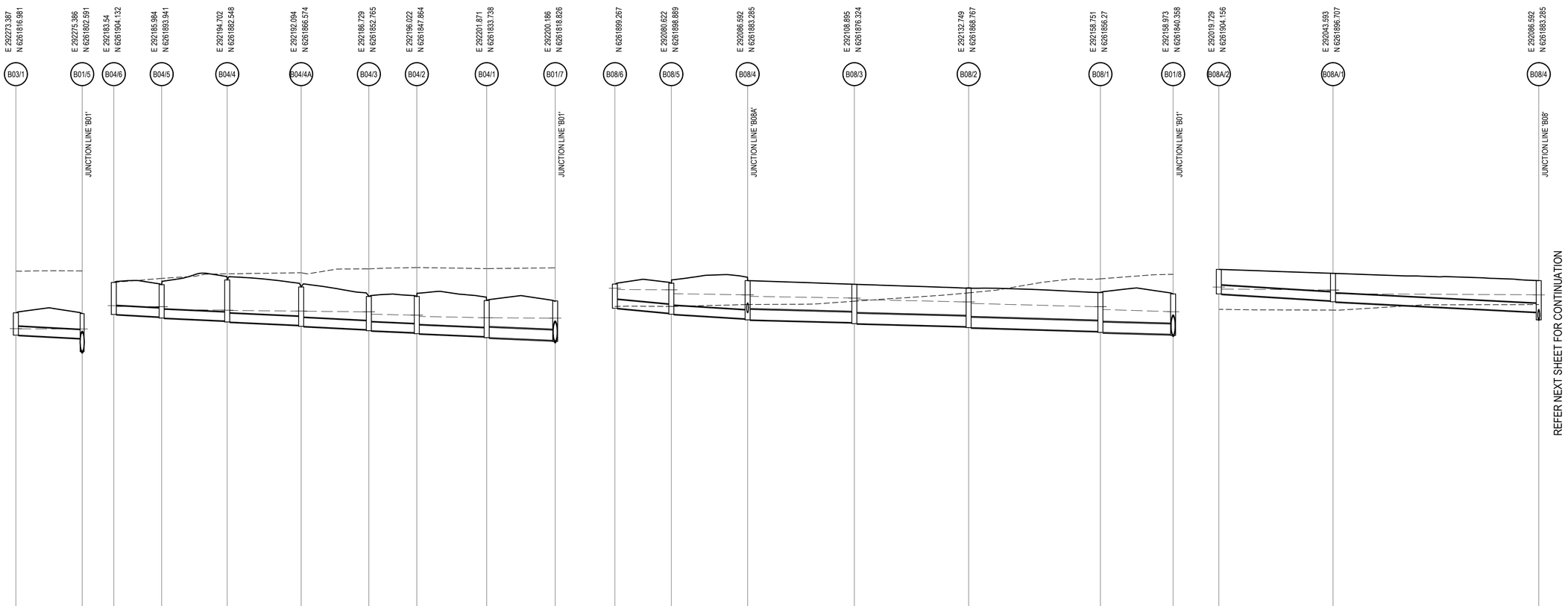
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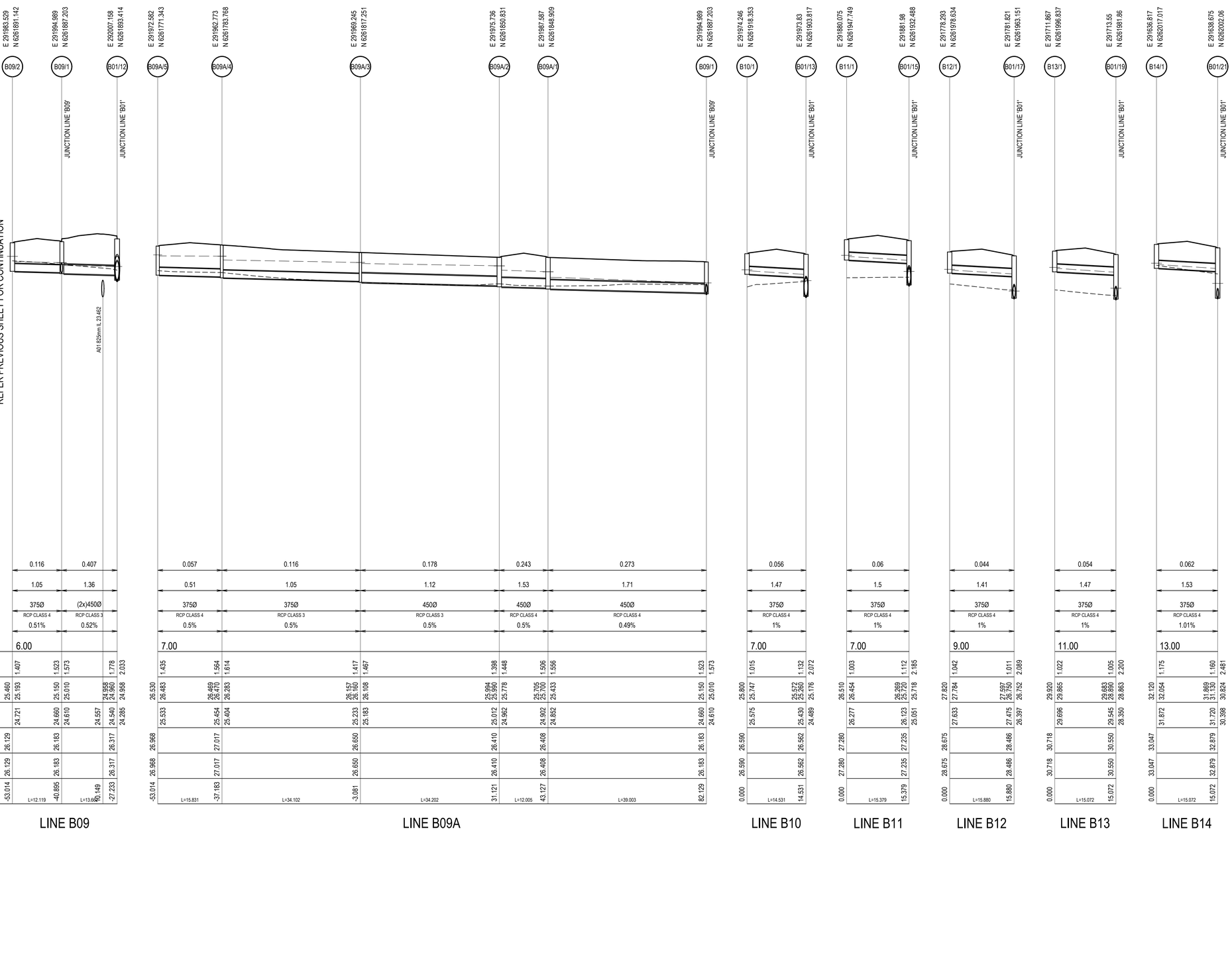
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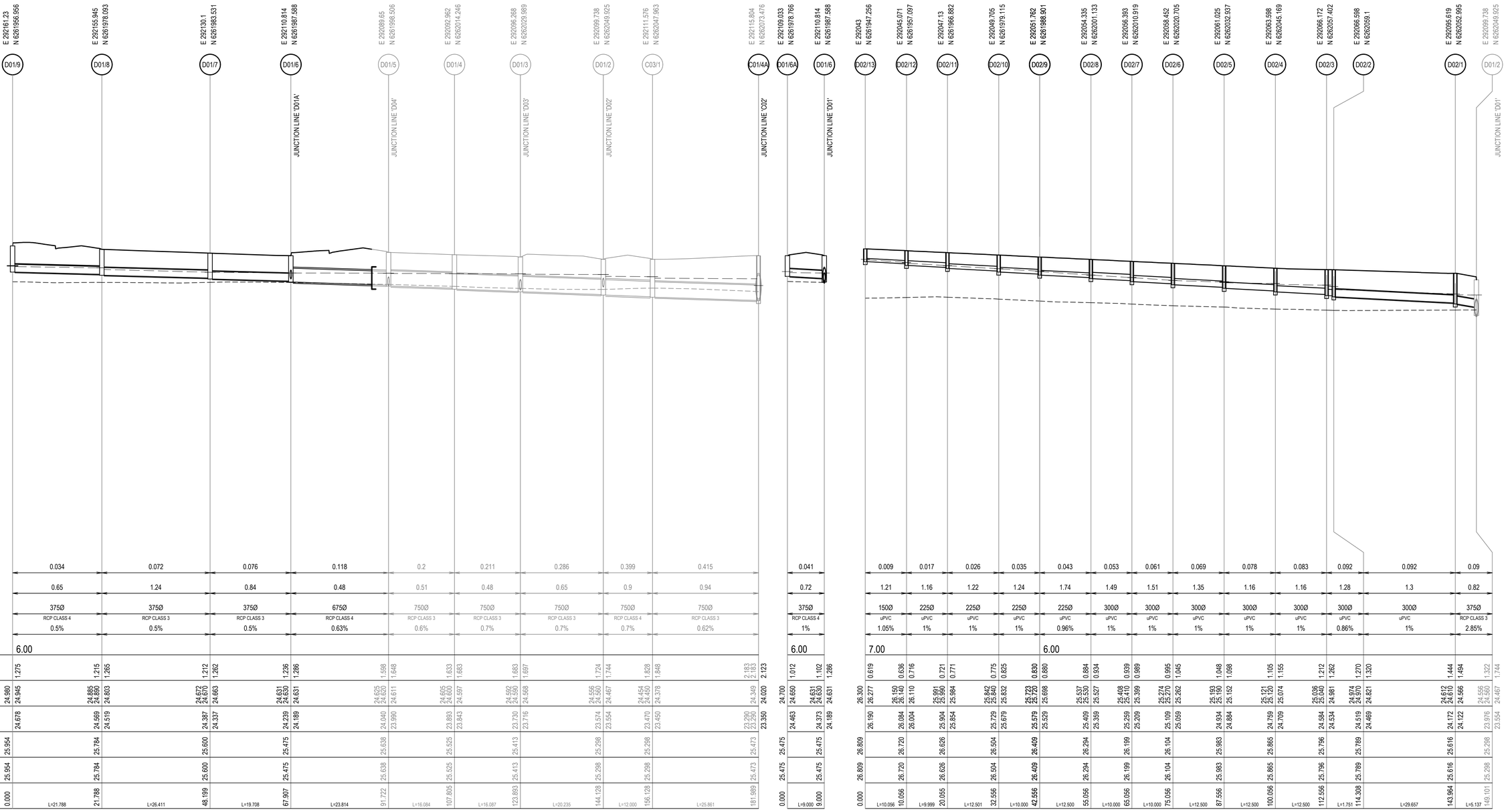
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REFER PREVIOUS SHEET FOR CONTINUATION



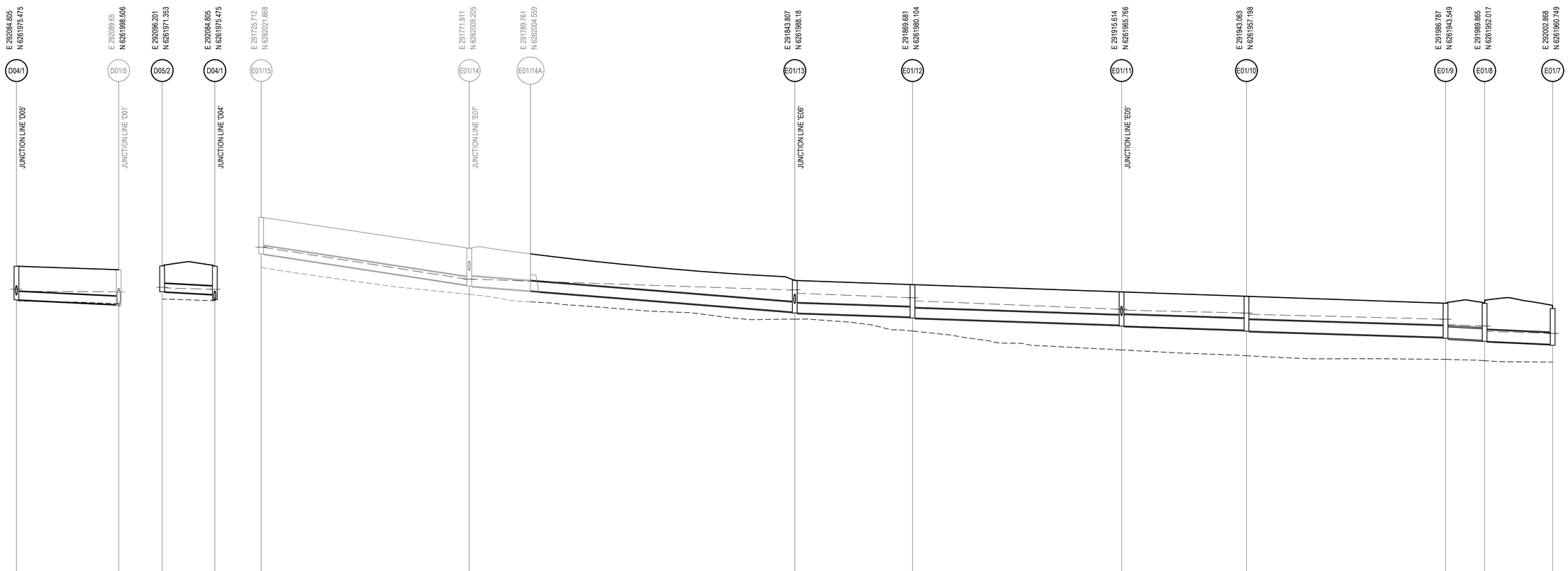
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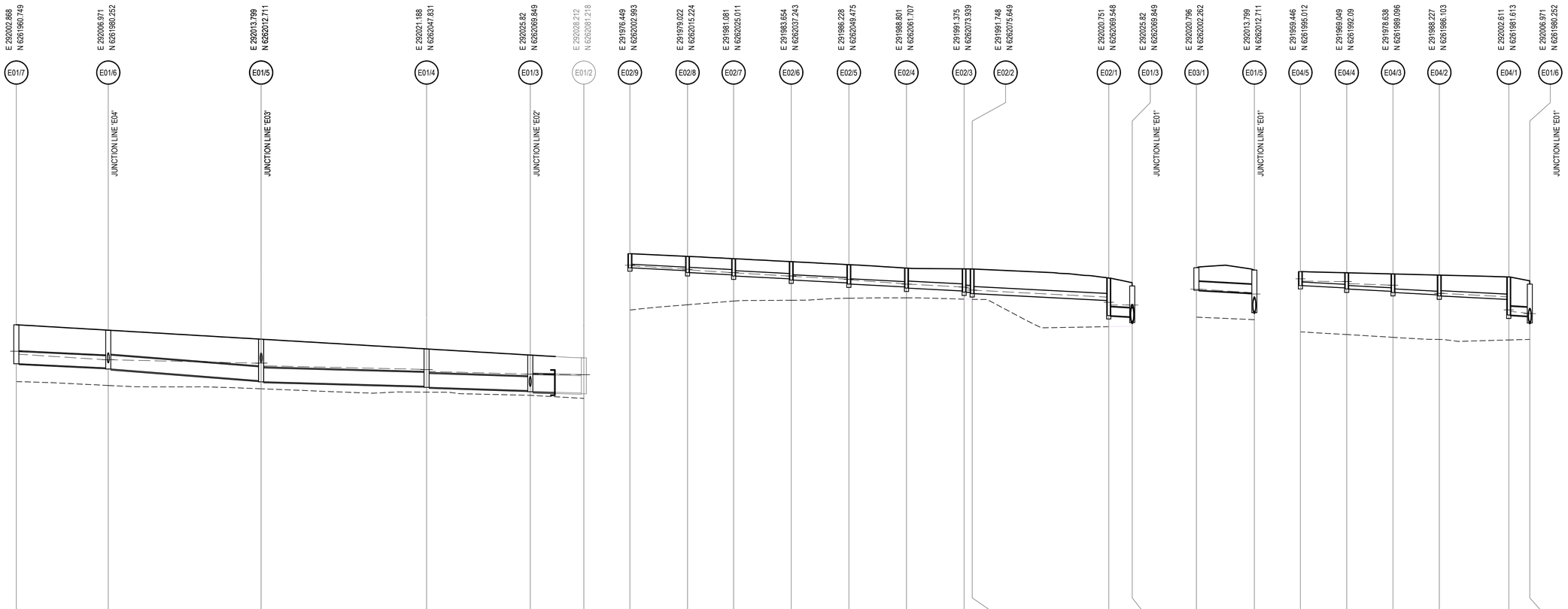
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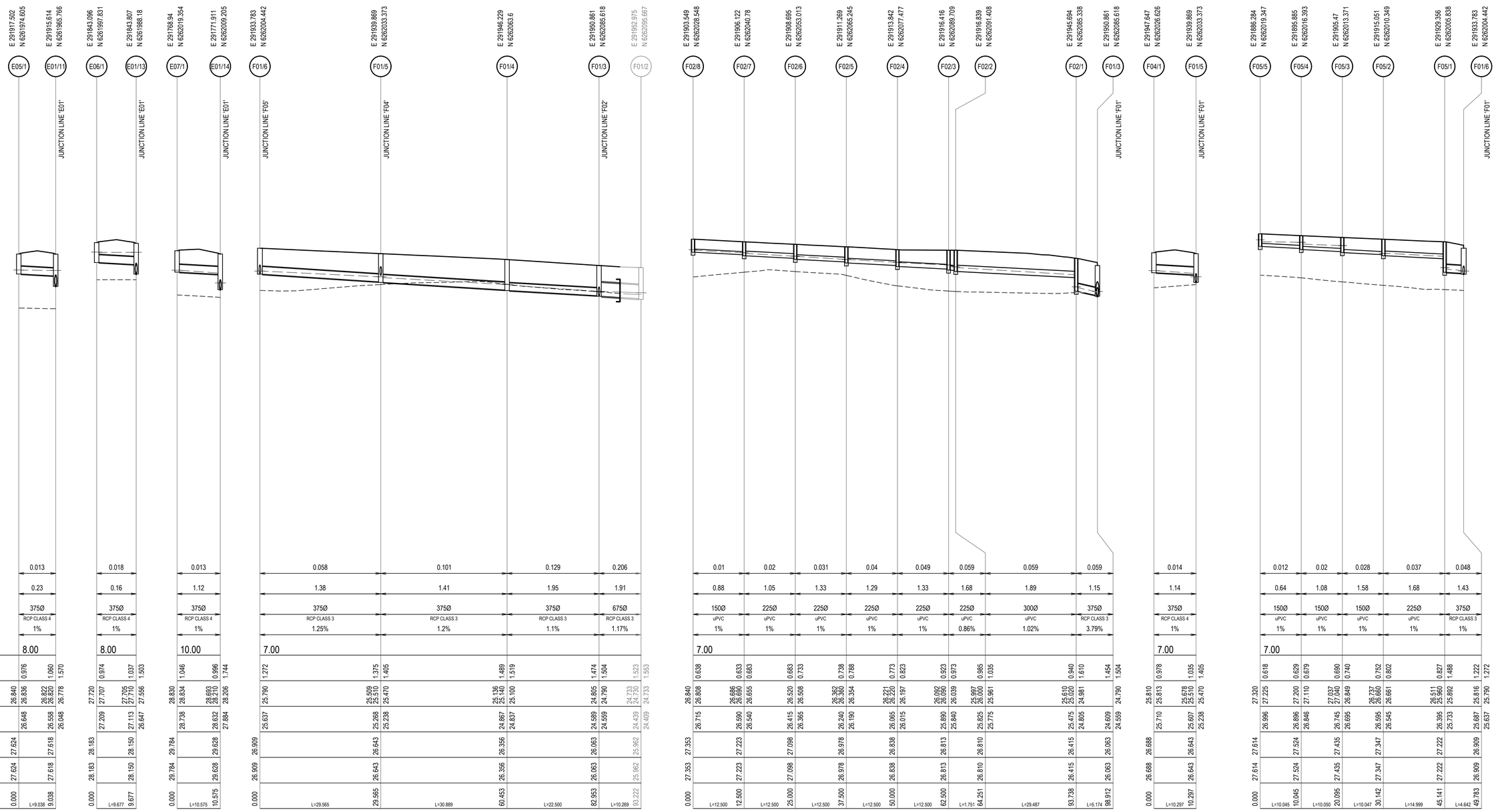
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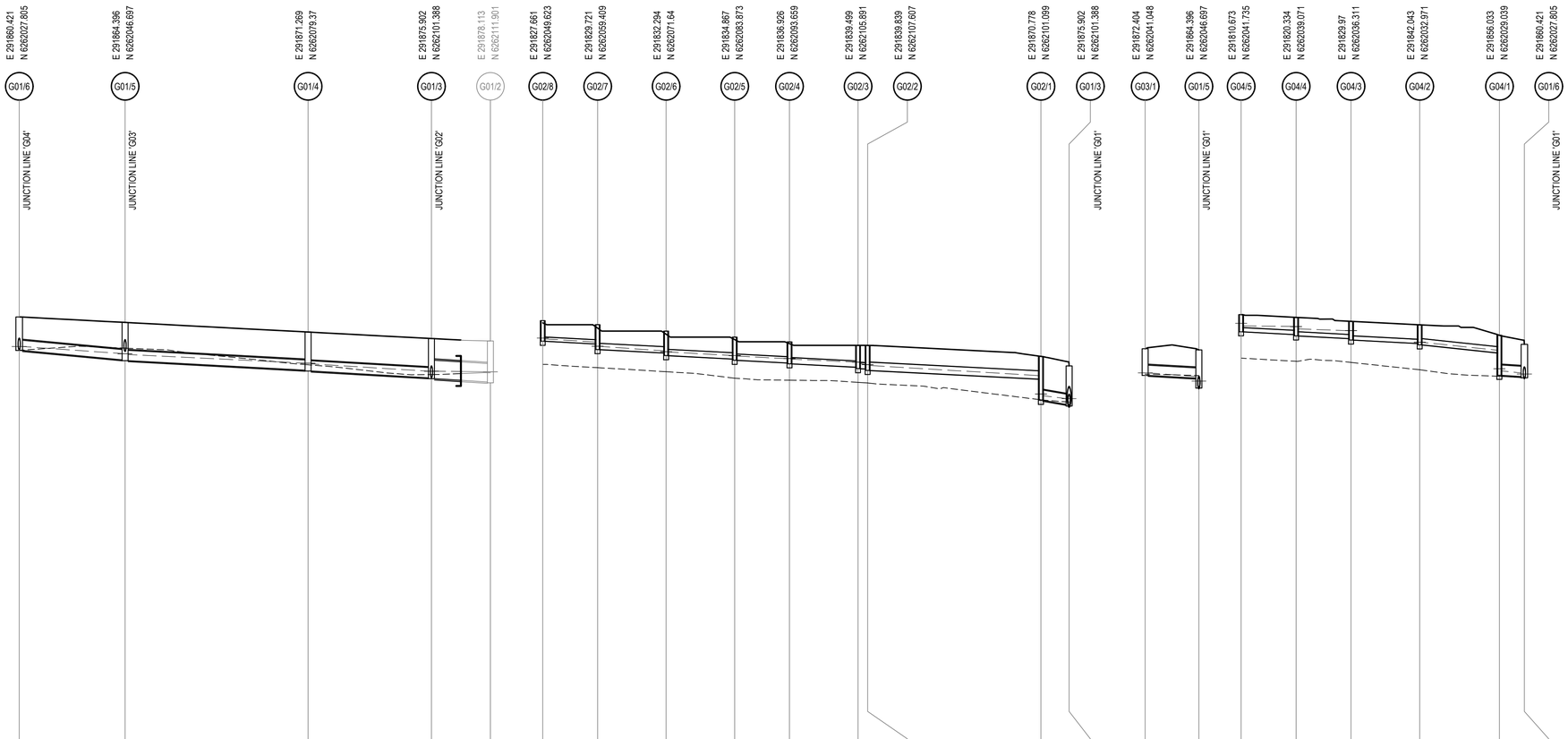
DATE PLOTTED: 17 August 2021 7:22 PM BY: JOSHUA BEZZINA

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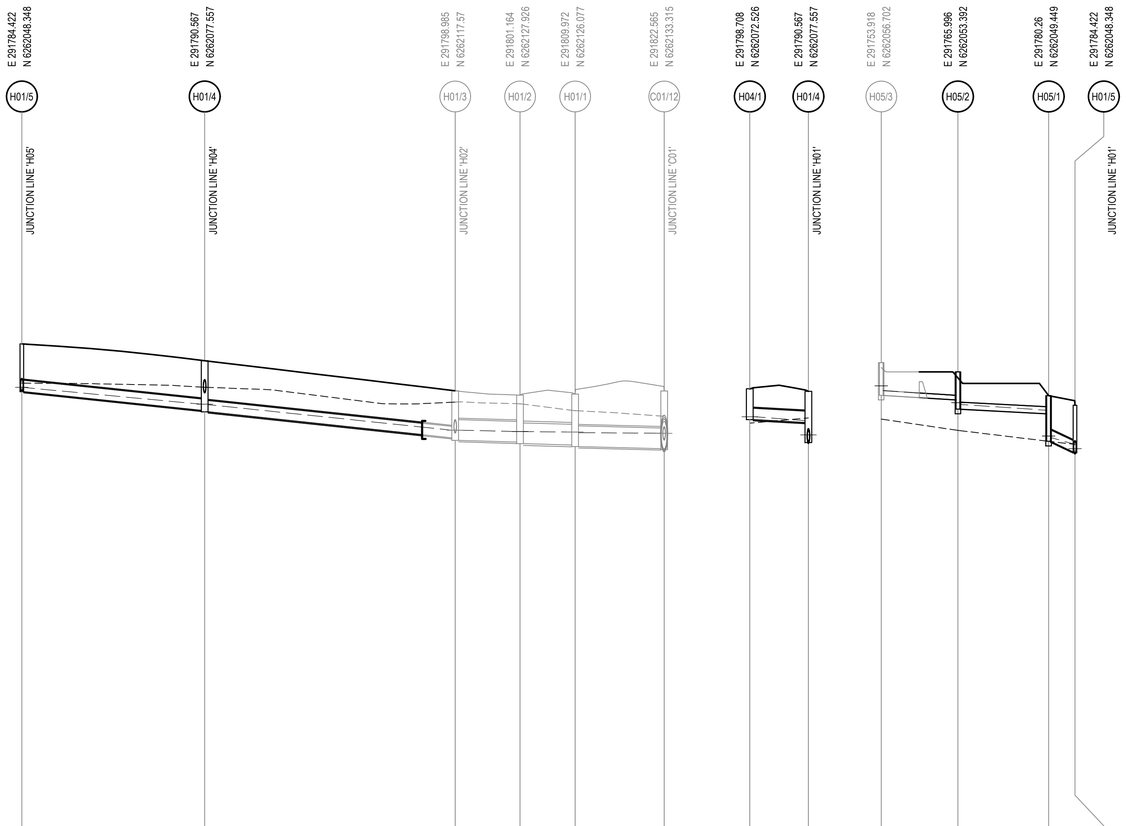
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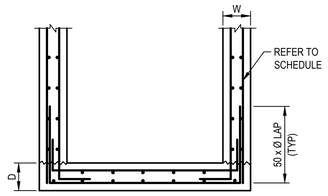
DATE PLOTTED: 17 August 2021 5:31 PM BY - JOSHUA BEZZINA

IMPORTANT NOTE: PIT STANDARD DETAILS

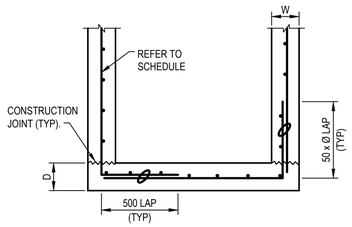
PENRITH CITY COUNCIL STANDARD GRATED GULLY PITS DETAIL, SD2001 TO BE USED FOR PIT DETAILS WHERE:
A. PIT INTERNAL WIDTH IN ANY DIRECTION IS LESS THAN OR EQUAL TO 1200mm, AND
B. PIT DEPTH FROM SETOUT POINT TO INVERT IS LESS THAN OR EQUAL TO 2000mm.
FOR INTERALLOTMENT DRAINAGE PITS LESS THAN 1500mm DEEP REFER DETAIL BELOW.
FOR PITS WIDER THAN 1200mm AND/OR DEEPER THAN 2000mm REFER TO THE BELOW TABLE AND STANDARD DRAWINGS BELOW.

NON STANDARD STORMWATER PIT REINFORCEMENT SCHEDULE

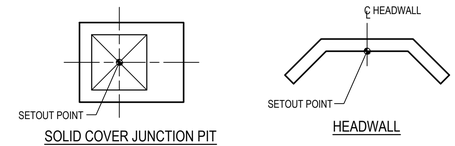
PIT DIMENSIONS (mm)		WALL DIMENSIONS(mm)		VERTICAL WALL REINFORCEMENT	HORIZONTAL WALL REINFORCEMENT	BASE REINFORCEMENT
LENGTH 'X', 'Y'	DEPTH 'H'	BASE THICKNESS 'D'	WALL THICKNESS 'W'			
1200<X,Y<3300	2000<H<3900	230	230	N12-200 E.F.	N12-200 E.F.	N12-200 TOP & BTM
X,Y<1200	H<6000	250	250	N16-200 E.F.	N16-250 E.F.	N16-200 TOP & BTM



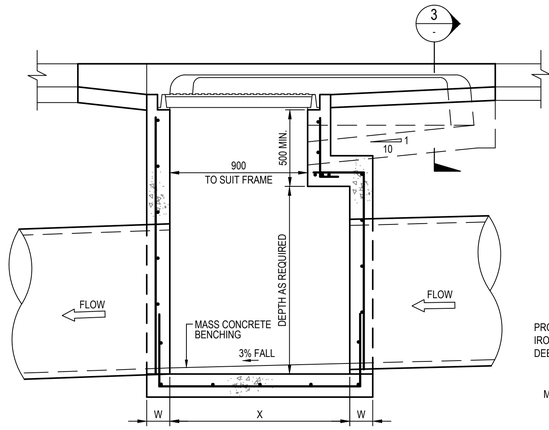
TYPICAL PIT CORNER DETAIL
DOUBLE STEEL LAYER
SCALE 1:20



TYPICAL PIT CORNER DETAIL
SCALE 1:20

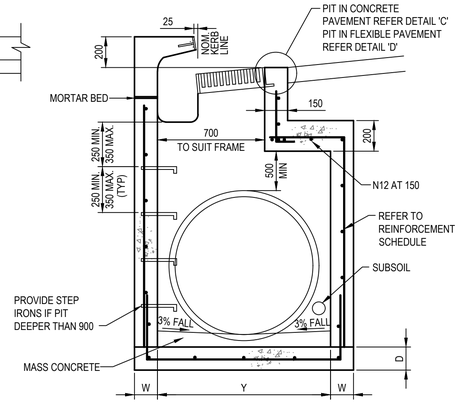


SETOUT DETAILS
N.T.S

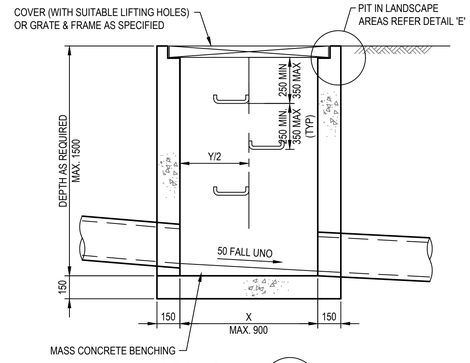


SECTION 1 -
SCALE 1:20

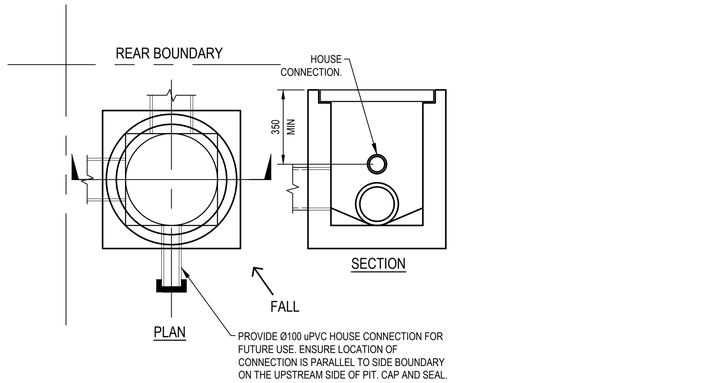
NOTE: FOR 'W' AND 'D' DIMENSIONS REFER REINFORCEMENT SCHEDULE



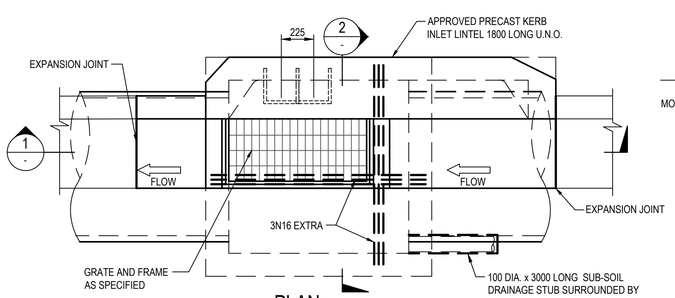
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SCALE 1:20



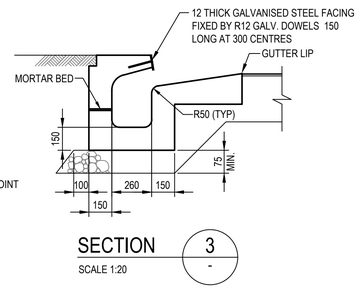
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SCALE 1:20



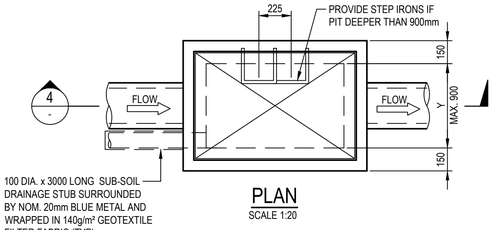
PENRITH CITY COUNCIL STANDARD
INTERALLOTMENT DRAINAGE PIT
SCALE 1:20



PLAN
SCALE 1:20



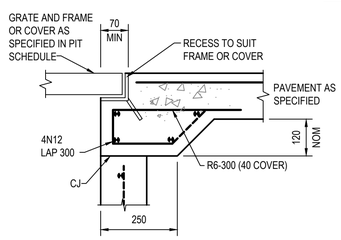
SECTION 3 -
SCALE 1:20



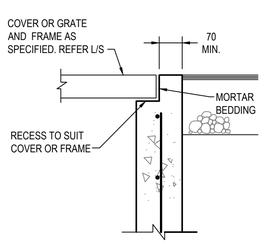
PLAN
SCALE 1:20

I.A.D. PIT DETAIL
FOR PITS LESS THAN 1500 DEEP

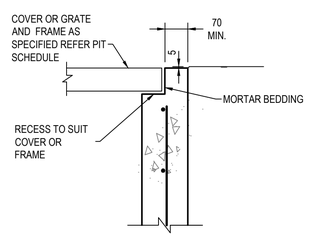
NON STANDARD KERB INLET PIT (KIP)



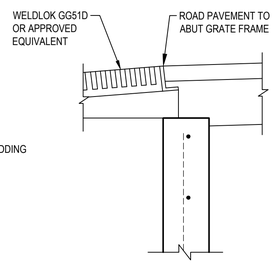
DETAIL 'C'
SCALE 1:10



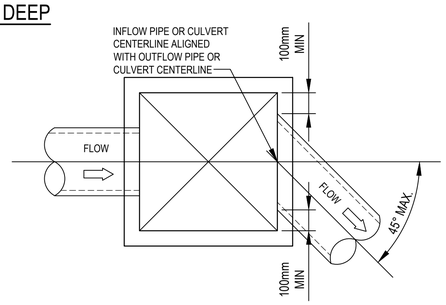
DETAIL 'D'
SCALE 1:10



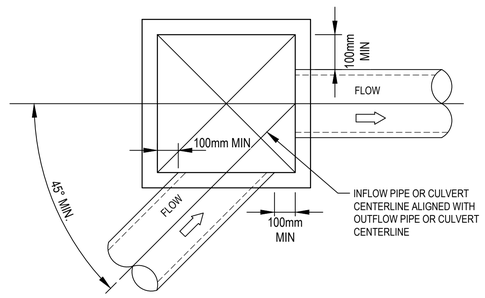
DETAIL 'E'
SCALE 1:10



DETAIL A -
SCALE 1:10



DEFLECTION ANGLE UP TO 45° (REAR OF PIT)
N.T.S



DEFLECTION ANGLE GREATER THAN 45° (SIDE OF PIT)
N.T.S

PIT ALIGNMENT REQUIREMENTS

TYPICAL DETAILS OF STORMWATER PIPE OR CULVERT ALIGNMENTS THROUGH STORMWATER PITS. STORMWATER PIPE OR CULVERT ALIGNMENTS NOT SHOWN SHOULD BE CONSTRUCTED SIMILARLY IN ORDER TO STREAMLINE FLOWS FROM UPSTREAM TO DOWNSTREAM AND MINIMISE HEADLOSS.

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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SCALE 1:10 @A1

0 0.5 1 1.5 2m
SCALE 1:20 @A1

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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE
Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE
Title: STORMWATER DRAINAGE DETAILS
SHEET 1 OF 2

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

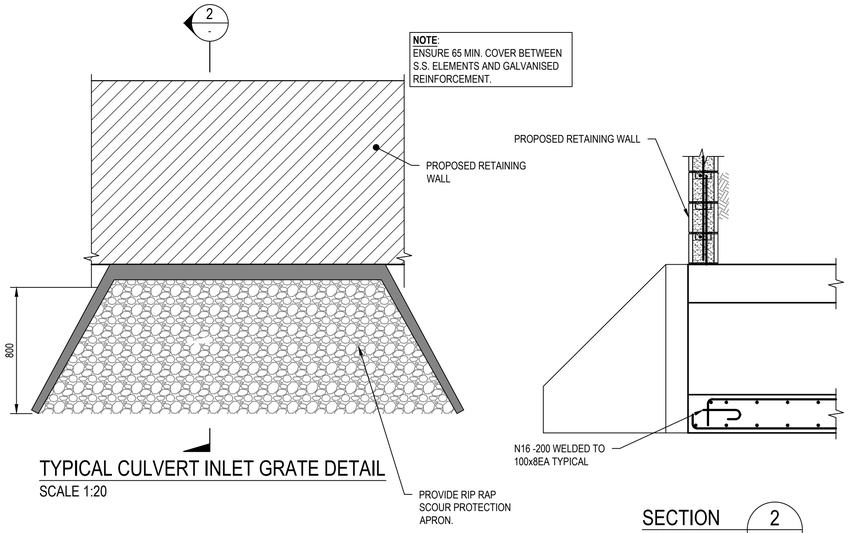
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AHD	Jul' 2021	AS SHOWN	A1

Drawing Number: CV-CARDNO-S02-2201
Revision: 3

XREF's: XR-80219053-001-1AB-CC-CHLOGO
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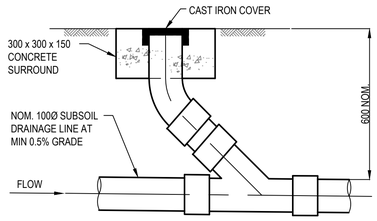
Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 17 August 2021 5:32 PM BY: JOSHUA BEZZINA

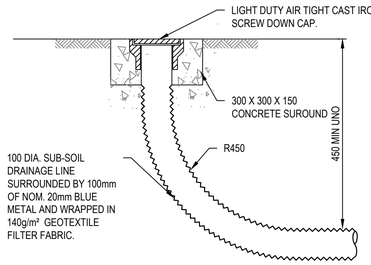


TYPICAL CULVERT INLET GRATE DETAIL
SCALE 1:20

SECTION 2 -
SCALE 1:20



INTERMEDIATE RISER
SCALE 1:10



FLUSHING POINT
SCALE 1:10

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

lendlease

0 1 2 3 4 5m
SCALE 1:50 @A1
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SCALE 1:10 @A1
0 0.5 1 1.5 2m
SCALE 1:20 @A1

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Client: LENDLEASE
Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE
Title: STORMWATER DRAINAGE DETAILS
SHEET 2 OF 2

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

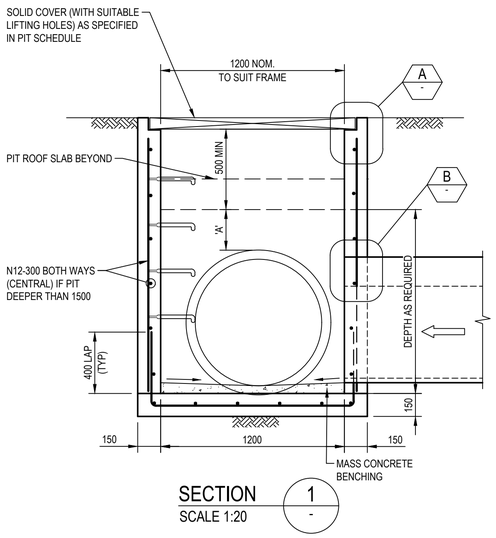
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Drawing Number: CV-CARDNO-S02-2202
Revision: 3

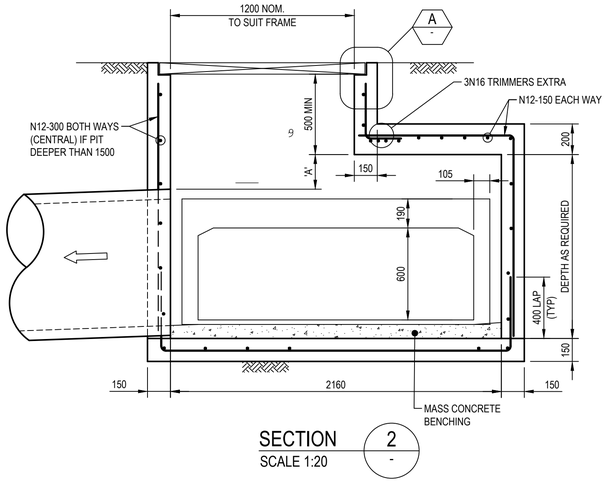
XREFs: XR-80219053-001-AB-CC-CI-LOGO
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Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

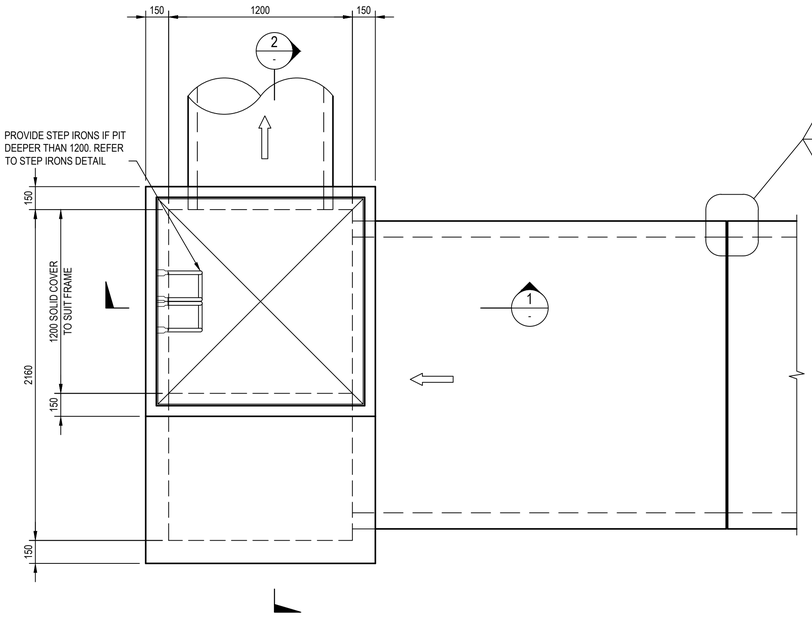
DATE PLOTTED: 17 August 2021 5:32 PM BY: JOSHUA BEZZINA



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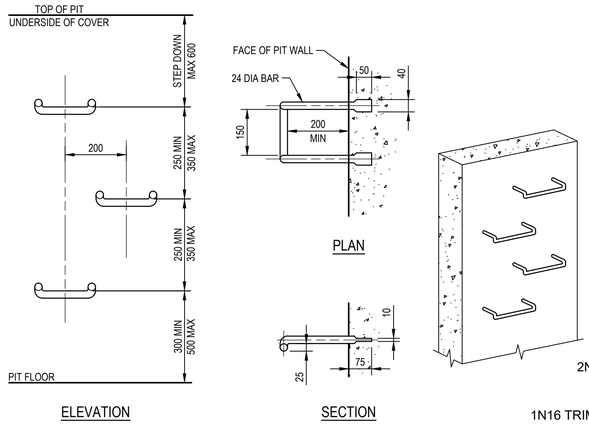


SECTION 2
SCALE 1:20

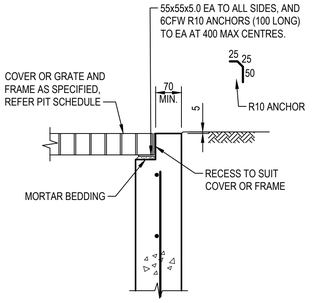


PLAN

PIT A01/13
SCALE 1:20



ELEVATION



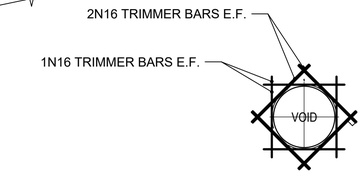
DETAIL A
SCALE 1:10

PIT STEP IRON DETAILS

SCALE 1:10

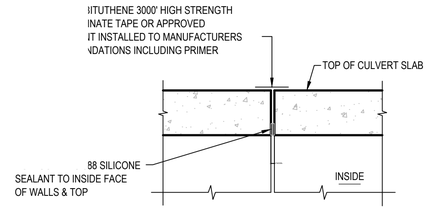
NOTES

1. PITS DEEPER THAN 1200 TO BE FITTED WITH STEP IRONS.
2. STEP IRONS MUST BE LOCATED
   - DIRECTLY BELOW THE ACCESS COVER
   - PREFERABLY ON A WALL WITHOUT PIPE OPENINGS
3. STEP IRONS TO COMPLY WITH AS1657.
4. STEP IRONS TO BE HOT DIP GALVANISED AFTER FABRICATION.
5. PROPRIETY PLASTIC ENCAPSULATED STEP IRONS (OR AN APPROVED EQUIVALENT) MAY BE USED.
6. STEP IRONS TO BE INSTALLERS IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.



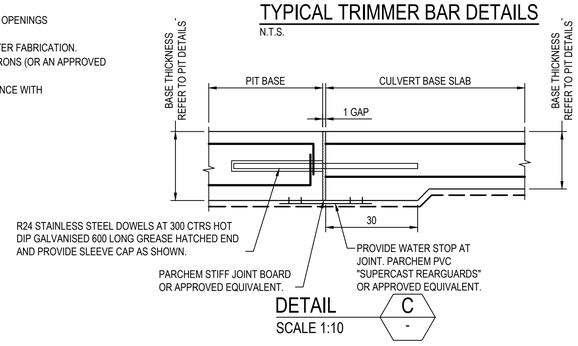
TYPICAL TRIMMER BAR DETAILS

N.T.S.



DETAIL B
SCALE 1:10

TYPICAL PRECAST BOX CULVERT JOINT - ROOF/TOP AND WALLS



DETAIL C
SCALE 1:10

EJ AND DJ

GENERAL:

1. DIMENSIONS SHALL NOT BE SCALED FROM THE DRAWING.
2. REFER TO DRAWING 2201 FOR TYPICAL DETAILS.

3. DESIGN:

1. DESIGN CODE: AS3600 CONCRETE STRUCTURES.
2. LOADING HEADWALL DESIGNED FOR ACTIVE EARTH PRESSURE.
3. INTERACTION BETWEEN PIPE AND HEADWALL HAS BEEN CONSIDERED IN THE DESIGN.
4. NO TRAFFIC LIVE LOAD SURCHARGE.

EXCAVATION AND FOUNDATION:

1. FOOTINGS HAVE BEEN DESIGNED FOR AN ULTIMATE BEARING PRESSURE EQUAL TO 250kPa. FOUNDATION MATERIAL SHALL BE UNIFORM AND BE APPROVED BY THE GEOTECHNICAL ENGINEER FOR THIS PRESSURE BEFORE PLACING BEDDING. REINFORCING OR CONCRETE.
2. FOOTING EXCAVATION SHALL BE CLEANED TO REMOVE ALL LOOSE OR SOFTENED MATERIAL AND DEBRIS PRIOR TO PLACING OF CONCRETE.
3. CONCRETE SHOULD BE POURED AS SOON AS POSSIBLE AFTER EXCAVATION. IF EXCAVATIONS ARE LIKELY TO REMAIN OPEN FOR MORE THAN 24 HOURS, A 50mm BLINDING LAYER OF CONCRETE SHALL BE [:ACED TO PROTECT THE FOUNDATION BASE.
4. FOOTINGS SHALL BE CONCRETED ON THE DAY OF APPROVAL UNLESS PERMISSION IS GIVEN OTHERWISE.
5. FOOTINGS LEVELS ARE TO BE READ FROM RELATED CIVIL DRAWINGS AND ARE ESTIMATES ONLY AND WILL BE ESTABLISHED DURING SITE INSPECTION OF WORK IN PROGRESS.
6. PRIOR TO ANY EXCAVATION NEAR EXISTING FOOTINGS, THE BUILDER SHALL DETERMINE THE DEPTH OF FOUNDING OF EXISTING FOOTINGS BY LOCAL INVESTIGATOR EXCAVATION. GENERAL EXCAVATION SHALL NOT PROCEED BELOW A LEVEL 150mm ABOVE THE UNDERSIDE OF EXISTING FOOTINGS STRICTLY UNTIL APPROVAL HAS BEEN PROVIDED BY THE ENGINEER.

CONCRETE:

1. ALL CONCRETE WORK SHALL COMPLY WITH AS 3600.
2. CONCRETE 28 DAY COMPRESSIVE STRENGTH fc = 32MPa.
3. EXPOSURE CLASSIFICATION = A2
4. 25mm CHAMFERS AND FILLETS SHALL BE PROVIDED TO ALL EXPOSED EDGES AND CORNERS U.N.O.

REINFORCEMENT NOTES:

1. ALL REINFORCEMENT BARS SHALL BE IN ACCORDANCE WITH AS/NZS 4671 WHERE:
   - 1.1. N DENOTES GRADE 500N DEFORMED RIBBED BAR
   - 1.2. R DENOTES GRADE 250N PLAIN ROUND BAR
2. CLEAR COVER TO REINFORCEMENT SHALL BE 50mm.
3. COGS AND HOOKS SHALL BE IN ACCORDANCE WITH AS3600.
4. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITIONS OR AS APPROVED IN WRITING BY THE SUPERINTENDENT.
5. WELDING FOR REINFORCEMENT IN PROHIBITED.
6. STEEL BAR CHAIRS ARE PROHIBITED.

BEDDING:

1. SELECTED BACKFILL BEDDING MATERIAL SHALL BE DGB20 OR APPROVED EQUIVALENT TO GEOTECHNICAL CONSULTANT ADVICE.
2. BEDDING SHALL BE PLACED IN LAYERS NOT EXCEEDING 150mm COMPACTED THICKNESS DETERMINED IN ACCORDANCE WITH AS1289.
3. ALL BEDDING SHALL HAVE A NATURAL PH VALUE IN THE RANGE OF 6-10 AND RESISTIVITY 3000 OHM/CM OR GRATER.

BACKFILL BEHIND HEADWALL:

1. BACKFILL AND ADEQUATELY COMPACT FREE DRAINING GRANULAR MATERIAL BEHIND CULVERT HEADWALL

NON SHRINK GROUT:

1. NON SHRINK GROUT SHALL BE CONBEXTRA GP OR APPROVED EQUIVALENT WITH A MINIMUM OF 7 DAY COMPRESSIVE STRENGTH OF 40MPa.

Rev.	Date	Description	Des.	Verif.	Appd.
3	11/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
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1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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SCALE 1:10 @A1

0 0.5 1 1.5 2m
SCALE 1:20 @A1

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		Date
Drawn	WP	30/07/2021
Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE
Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE
Title: STORMWATER SPECIAL PIT DETAILS

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	AS SHOWN	A1

Drawing Number: CV-CARDNO-S02-2221
Revision: 3

XREF's: XR-80219053-001-1AB-CC-CI-LOGO
CAD File: \\cardno.com\global\AUNSW\Directory\Structure\Projects\802\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\CC\02 Stage 2-4\CV-CARDNO-S02-2221-DWG(1).dwg

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

PIT	TYPE	INTERNAL DIMENSIONS		NOTES
		X	Y	
D03/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	-	-	CONVERT EXISTING JUNCTION PIT TO KERB INLET PIT
D02/13	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
D02/12	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
D02/11	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
D02/10	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
D02/9	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
D02/8	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
D02/7	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
D02/6	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
D02/5	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
D02/4	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
D02/3	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
D02/2	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
D02/1	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
D05/2	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	600	
D04/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
D01/4	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	-	-	CONVERT EXISTING JUNCTION PIT TO KERB INLET PIT
D01/5	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	-	-	CONVERT EXISTING JUNCTION PIT TO KERB INLET PIT
D01/6A	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 2.4m LINTEL SAG	900	600	
D01/6	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 2.4m LINTEL SAG	900	1000	
D01/9	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
D01/8	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
D01/7	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
E01/14	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	-	-	CONVERT EXISTING JUNCTION PIT TO KERB INLET PIT
E01/13	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
E01/12	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
E01/11	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
E01/10	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
E01/9	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
E01/8	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	1150	
E01/7	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	1100	
E01/6	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
E01/5	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
E01/4	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
E01/3	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	1050	
E02/9	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
E02/8	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
E02/7	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
E02/6	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
E02/5	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
E02/4	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
E02/3	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
E02/2	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
E02/1	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
E03/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	600	
E04/5	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
E04/4	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
E04/3	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
E04/2	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
E04/1	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
E05/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	600	
E06/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	600	
E07/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	600	
F02/8	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
F02/7	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
F02/6	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
F02/5	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
F02/4	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
F02/3	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
F02/2	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
F02/1	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
F01/3	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	950	
F04/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	600	
F01/5	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
F01/4	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
F05/5	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
F05/4	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
F05/3	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
F05/2	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
F05/1	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
F01/6	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
G02/8	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
G02/7	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
G02/6	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
G02/5	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
G02/4	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
G02/3	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
G02/2	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
G02/1	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
G01/3	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	950	
G03/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	600	
G01/5	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
G01/4	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
G04/5	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
G04/4	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
G04/3	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
G04/2	600 X 600 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	600	600	
G04/1	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
G01/6	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
H04/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	600	
H01/4	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
H05/2	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
H05/1	900 X 900 CLASS B GALVANISED MILD STEEL FLUSH HINGED GRATE AND FRAME	900	900	
H01/5	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
A01/14	OPENING AT RETAINING WALL TO SUIT 1800 X 600 BOX CULVERT	-	-	REFER DWG 2202 FOR DETAILS
A01/13	1200 X 1200 CLASS C CAST IRON COVER WITH CONCRETE INFILL	-	-	REFER DWG 2221 FOR DETAILS
A01/12	900 X 900 CLASS C CAST IRON COVER WITH CONCRETE INFILL	900	1200	
A01/11	900 X 900 CLASS C CAST IRON COVER WITH CONCRETE INFILL	900	1200	
A01/9	900 X 900 CLASS C CAST IRON COVER WITH CONCRETE INFILL	900	1200	
A01/7	900 X 900 CLASS C CAST IRON COVER WITH CONCRETE INFILL	900	1200	

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: STORMWATER PIT SCHEDULE
SHEET 1 OF 2

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	N.T.S	A1

Drawing Number: CV-CARDNO-S02-2251

Revision: 3

DATE PLOTTED: 17 August 2021 5:32 PM BY - JOSHUA BEZZINA
XREF's: XR-80219053-001-1AB-CC-CHLOGO
CAD File: \\cardno.corp\global\AU\NSW\Director\Structure\Projects\802\PY19053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\CC\02 Stage 2-4\CV-CARDNO-S02-2251-2252-DWG(1).dwg
Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

A01/6	900 X 900 CLASS C CAST IRON COVER WITH CONCRETE INFILL	900	1200	
A01/5	900 X 900 CLASS C CAST IRON COVER WITH CONCRETE INFILL	900	1700	
A06/1	900 X 900 CLASS B GALVANISED MILD STEEL HINGED RAISED GRATE AND FRAME	900	1050	
B01/24	900 X 900 CLASS B GALVANISED MILD STEEL HINGED RAISED GRATE AND FRAME	900	900	
B01/23A	900 X 900 CLASS D CAST IRON COVER WITH CONCRETE INFILL	900	900	
B01/23	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B01/22	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B01/21	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B01/20	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B01/19	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B01/18	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B01/17	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B01/16	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	1050	
B01/15A	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	1050	
B01/15	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	1200	
B01/14	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	1200	
B01/13	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	1200	
B01/12	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	2650	1550	
B01/11	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	2350	
B01/9	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	2400	
B01/8	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	2350	
B01/7	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	2400	
B01/6	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	2400	
B01/5	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	2350	
B04/6	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 2.4m LINTEL SAG	900	900	
B04/5	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 2.4m LINTEL SAG	900	900	
B04/4	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B04/4A	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B04/3	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 2.4m LINTEL SAG	900	900	
B04/2	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B03/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	600	
B04/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B08A/2	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B08A/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B08/6	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 2.4m LINTEL SAG	900	600	
B08/5	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 2.4m LINTEL SAG	900	900	
B08/4	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B08/3	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B08/2	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B08/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B09/2	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 2.4m LINTEL SAG	900	900	
B09/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 2.4m LINTEL SAG	2050	900	
B10/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	600	
B11/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	600	
B12/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	600	
B13/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	600	
B14/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	600	
B09A/5	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B09A/4	900 X 900 CLASS D CAST IRON COVER WITH CONCRETE INFILL	900	900	
B09A/3	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B09A/2	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
B09A/1	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	900	900	
L01/2	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	-	-	CONVERT EXISTING JUNCTION PIT TO KERB INLET PIT
L01/3	450 X 900 CLASS D GALVANISED MILD STEEL HINGED GRATE AND FRAME WITH 1.8m LINTEL	-	-	CONVERT EXISTING JUNCTION PIT TO KERB INLET PIT

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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		Date
Drawn	WP	30/07/2021
Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: STORMWATER PIT SCHEDULE
SHEET 2 OF 2

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	N.T.S	A1

Drawing Number: CV-CARDNO-S02-2252

Revision: 3

DATE PLOTTED: 17 August 2021 5:33 PM BY: JOSHUA BEZZINA
XREFs: XR-80219053-001-1AB-CC-CI-LOGO
CAD File: \\cardno.com\global\AUNSW\Directory\Structure\Projects\80\2\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\CC\02 Stage 2-4\CV-CARDNO-S02-2251-2252-DWG(1).dwg
Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

XREFs: XR-80219053-C!-LOT LAYOUT; XR-80219053-001-1AB-CC-C!-ROAD; XR-80219053-C!-EXST CONTOURS-500; XR-80219053-001-1AB-CC-C!-DESN CONTOURS-500; XR-80219053-001-2-4-CC-C!-ROAD; XR-80219053-001-2-4-CC-C!-SITEWORKS; XR-80219053-001-2-4-CC-C!-SIte
CAD File: \\cardno.corp\global\AU\NSW\Directory\Structure\Projects\80219\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\CC\02 Stage 2-4\CV-CARDNO-S02-2301-2305-DWG(1).dwg
DATE PLOTTED: 18 August 2021 10:02 AM BY: JOSHUA BEZZINA
JOINS DRG. 2202

LEGEND
- INTERNAL CATCHMENT
- EXISTING CATCHMENT
- EXTERNAL CATCHMENT
- C03/1 0.0658ha — CATCHMENT NAME AND AREA

Q01/14 0.1515ha
Q01/15 0.1796ha
C01/20 0.1410ha
K01/1 0.1623ha
K01/2 0.1353ha
Q04/1 0.0792ha
S02/10 0.0290ha
S02/11 0.0290ha
S02/12 0.0290ha
S01/5 0.1508ha
S05/4 0.0300ha
S05/2 0.0300ha
S05/5 0.0412ha
S05/3 0.0300ha
S05/1 0.0412ha
S01/6 0.0387ha
C10/1 0.0477ha
C01/18 0.0192ha
C01/17 0.1137ha
J01/2 0.0671ha
C11/1A 0.0277ha
J02/3 0.0362ha
J02/4 0.0290ha
J02/5 0.0362ha
J02/6 0.0289ha
K02/1 0.0453ha
J02/7 0.0331ha
J01/3 0.0467ha
J01/4 0.0837ha
J01/5 0.0866ha
J05/4 0.0295ha
J05/2 0.0296ha
J05/5 0.0401ha
J05/3 0.0296ha
J05/1 0.0409ha
J01/6 0.0365ha
E09/1 0.0558ha
E01/19 0.2242ha
E01/18 0.0852ha
E01/17 0.0822ha
E01/16 0.0900ha
E01/15 0.0871ha
E01/14 0.1242ha
E01/13 0.1743ha
E01/12 0.0516ha
B14/1 0.1754ha
B13/1 0.1248ha
B12/1 0.0990ha
B11/1
0.0290ha
Q03/10 0.0290ha
Q03/11 0.0290ha
Q03/12 0.0290ha
S04/1 0.0526ha
R03/4 0.0300ha
R03/2 0.0300ha
R03/5 0.0412ha
R03/3 0.0300ha
R03/1 0.0412ha
R01/3 0.0394ha
C09/1 0.0477ha
C01/16 0.0147ha
C01/15 0.1147ha
I01/2 0.0668ha
I02/3 0.0362ha
I02/4 0.0362ha
I02/5 0.0362ha
I02/6 0.0362ha
I02/7 0.0299ha
J01/1 0.0450ha
I01/3 0.0913ha
I01/4 0.0487ha
I01/5 0.0911ha
J04/1 0.0466ha
I04/4 0.0292ha
I04/2 0.0295ha
I04/5 0.0396ha
I04/3 0.0293ha
I04/1 0.0408ha
J01/6 0.0365ha
I01/6 0.0367ha
R01/2 0.1130ha
R02/1 0.0439ha
M01/3 1.99ha
C01/14 0.0129ha
I01/1 0.0495ha
I03/1 0.0458ha
H02/3 0.0300ha
H02/4 0.0375ha
H02/5 0.0300ha
H02/6 0.0300ha
H02/7 0.0363ha
H02/8 0.0307ha
H05/4 0.0291ha
H05/2 0.0363ha
H05/5 0.0421ha
H05/3 0.0291ha
H05/1 0.0413ha
H01/5 0.0365ha
C08/1 0.0464ha
C01/13 0.1211ha
H01/2 0.0728ha
H01/3 0.1700ha
H01/4 0.1009ha
C07/1 0.0227ha
C01/12 0.0037ha
C01/11 0.1182ha
G01/2 0.0734ha
H01/1 0.0614ha
G02/3 0.0375ha
G02/4 0.0300ha
G02/5 0.0375ha
G02/6 0.0375ha
G02/7 0.0300ha
G02/8 0.0344ha
G01/3 0.0908ha
G01/4 0.1395ha
G01/5 0.0578ha
H04/1 0.0503ha
G04/4 0.0296ha
G04/2 0.0377ha
G04/5 0.0431ha
G04/3 0.0299ha
G04/1 0.0435ha
H01/5 0.0365ha
E06/1 0.0482ha
G01/6 0.0389ha
G01 0.074
G03 0.046

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE
Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE
Title: STORMWATER CATCHMENTS PLAN
SHEET 1 OF 4

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	1:500	A1

Drawing Number: CV-CARDNO-S02-2301
Revision: 3

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

XREFs: XR-80219053-C-LOT LAYOUT; XR-80219053-001-1AB-CC-CI-ROAD; XR-80219053-C-EXST CONTOURS-500; XR-80219053-001-1AB-CC-CI-DESN CONTOURS-500; XR-80219053-C-EXISTING WATERCOURSES; XR-80219053-CI-OSD-PLAN; XR-80219053-001-1AB-CC-CI-LOGO; XR-80219053-001-2-4-CC-CI-ROAD; XR-80219053-001-2-4-CC-CI-SITEWORKS; XR-80219053-001-2-4-CC-CI-Stw
CAD File: \\cardno.corp\global\AU\NSW\Directory\Structure\Projects\8021\FY19\53_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\CC\02 Stage 2-4\CV-CARDNO-S02-2301-2305-DWG(1).dwg
DATE PLOTTED: 18 August 2021 10:04 AM BY : JOSHUA BEZZINA

JOINS DRG. 2201

JOINS DRG. 2203

LEGEND

- INTERNAL CATCHMENT
- EXISTING CATCHMENT
- EXTERNAL CATCHMENT
- C03/1 0.0658ha — CATCHMENT NAME AND AREA

M01/3 1.99ha

C06/1 0.0440ha
C01/10 0.0028ha
C01/9 0.1178ha
F01/2 0.0691ha
C05/1 0.0880ha
C01/8 0.0032ha
C01/7 0.1193ha
E01/2 0.0670ha
C04/1 0.0549ha
C01/6 0.0022ha
C01/5 0.1773ha
C01/4a 0.0047ha
C03/1 0.0616ha

F02/3 0.0375ha
F02/4 0.0375ha
F02/5 0.0375ha
F02/6 0.0375ha
F02/7 0.0375ha
F02/8 0.0388ha
F01/3 0.0862ha
F01/4 0.1229ha
F01/5 0.0927ha
F01/1 0.0736ha
E02/3 0.0375ha
E02/4 0.0375ha
E02/5 0.0375ha
E02/6 0.0375ha
E02/7 0.0300ha
E02/8 0.0375ha
E02/9 0.0350ha
E01/3 0.0935ha
E01/4 0.1347ha
E01/5 0.1068ha
E01/1 0.0808ha
D02/3 0.0375ha
D02/4 0.0375ha
D02/5 0.0375ha
D02/6 0.0300ha
D02/7 0.0300ha
D02/8 0.0375ha
D02/9 0.0300ha
D02/10 0.0375ha
D02/11 0.0300ha
D02/12 0.0302ha
D02/13 0.0346ha
D01/2 0.1158ha
D01/3 0.0536ha
D01/4 0.0778ha
D01/5 0.0916ha
D04/1 0.1456ha
D03/1 0.0235ha
D03/3 0.2898ha (RESIDUE)
D01/6 0.0347ha
D01/7 0.0224ha
D01/6A 0.1530ha
D01/8 0.1521ha
D05/2 0.1354ha
D01/9 0.1292ha
B04/6 0.1355ha
B08/5 0.1004ha
B04/5 0.1007ha

F05/4 0.0305ha
F05/2 0.0305ha
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E01/11 0.1250ha
E01/10 0.0803ha
E01/9 0.1221ha
E03/1 0.1010ha

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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Web: www.cardno.com.au

Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: STORMWATER CATCHMENTS PLAN
SHEET 2 OF 4

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	1:500	A1

Drawing Number: CV-CARDNO-S02-2302
Revision: 3

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

XREF's: XR-80219053-CI-LOT LAYOUT; XR-80219053-001-1AB-CC-CI-ROAD; XR-80219053-CI-EXST CONTOURS-500; XR-80219053-001-1AB-CC-CI-DESN CONTOURS-500; XR-80219053-CI-EXISTING WATERCOURSES; XR-80219053-CI-OSD-PLAN; XR-80219053-001-1AB-CC-CI-LOGO; XR-80219053-001-2-4-CC-CI-ROAD; XR-80219053-001-1AB-CC-CI-DESN CONTOURS-500; XR-80219053-001-2-4-CC-CI-SITEWORKS; XR-80219053-001-2-4-CC-CI-Stw
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DATE PLOTTED: 18 August 2021 10:05 AM BY - JOSHUA BEZZINA

JOINS DRG. 2202



JOINS DRG. 2204

LEGEND

- INTERNAL CATCHMENT
- EXISTING CATCHMENT
- EXTERNAL CATCHMENT
- C03/1 0.0658ha — CATCHMENT NAME AND AREA

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: STORMWATER CATCHMENTS PLAN
SHEET 3 OF 4

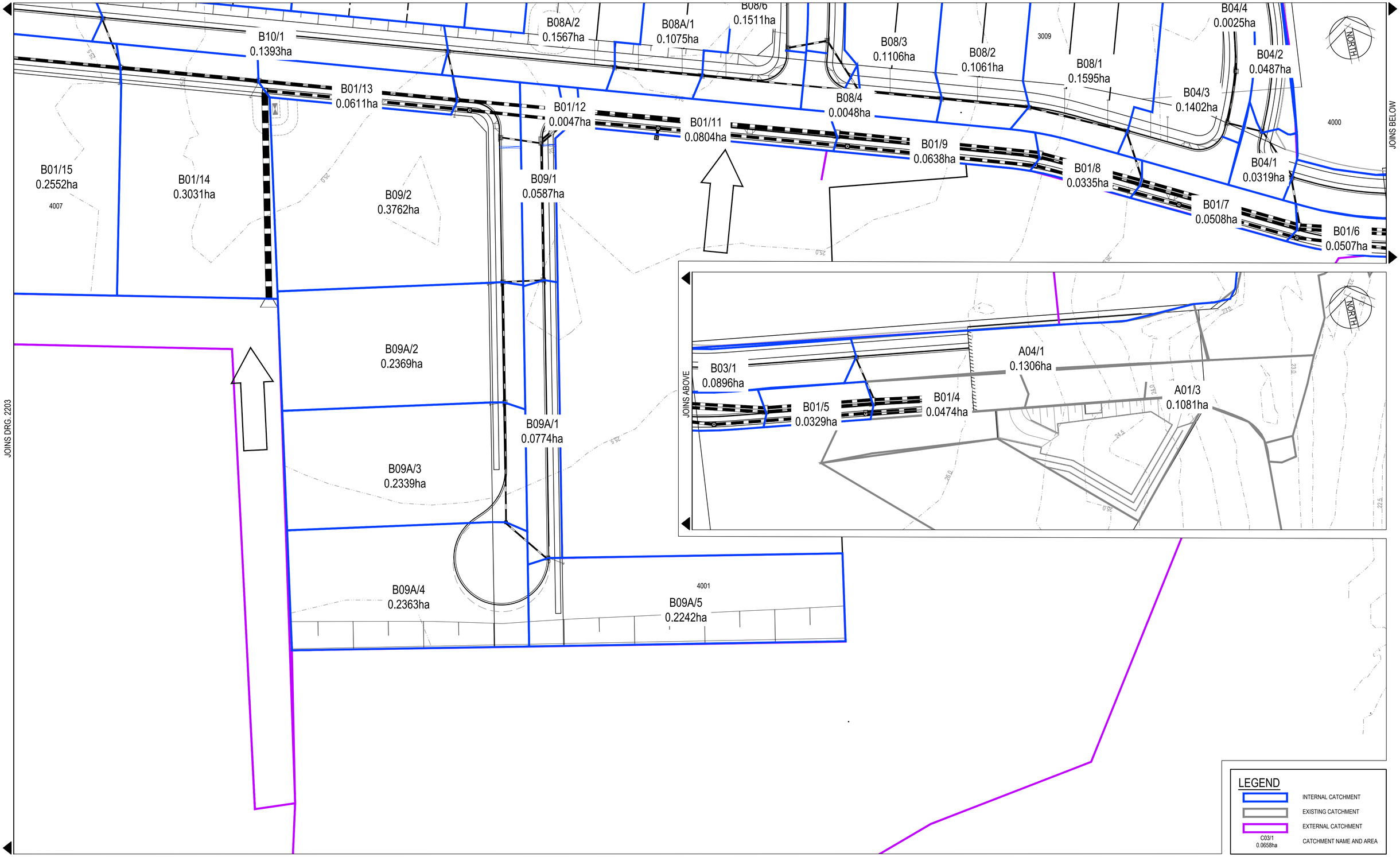
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Datum	Date	Scale	Size
AHD	Jul' 2021	1:500	A1

Drawing Number: CV-CARDNO-S02-2303
Revision: 3

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

XREFs: XR-80219053-CI-LOT LAYOUT; XR-80219053-001-1AB-CC-CI-ROAD; XR-80219053-CI-EXST CONTOURS-500; XR-80219053-001-1AB-CC-CI-DESN CONTOURS-500; XR-80219053-CI-EXISTING WATERCOURSES; XR-80219053-CI-OSD-PLAN; XR-80219053-001-1AB-CC-CI-LOGO; XR-80219053-001-2-4-CC-CI-ROAD; XR-80219053-001-2-4-CC-CI-SITEWORKS; XR-80219053-001-2-4-CC-CI-Stw
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DATE PLOTTED: 18 August 2021 10:05 AM BY : JOSHUA BEZZINA



Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
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Web: www.cardno.com.au

		Date
Drawn	WP	30/07/2021
Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: STORMWATER CATCHMENTS PLAN
SHEET 4 OF 4

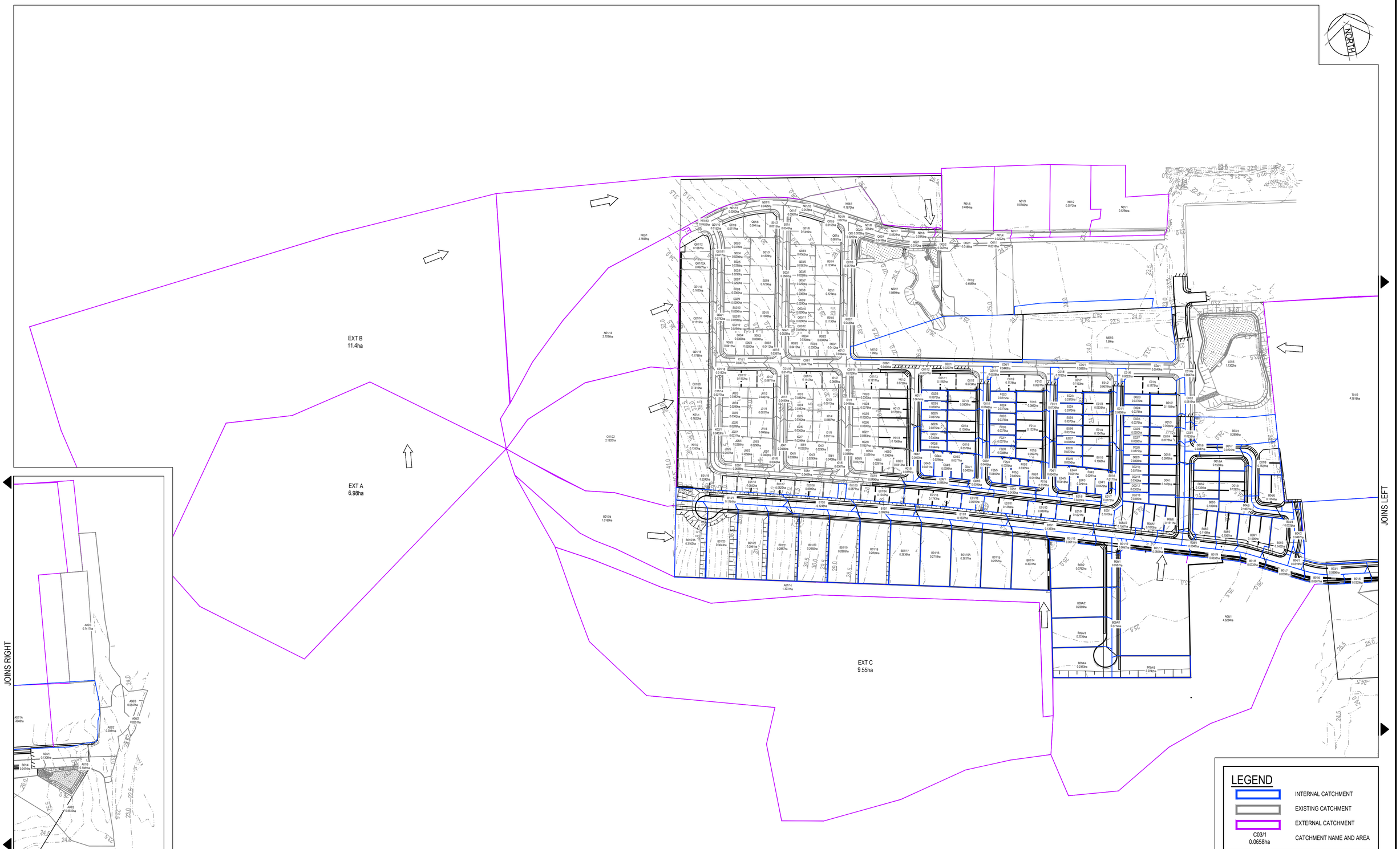
Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	1:500	A1

Drawing Number: CV-CARDNO-S02-2304
Revision: 3

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

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DATE PLOTTED: 18 August 2021 10:06 AM BY - JOSHUA BEZZINA



Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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		Date
Drawn	WP	30/07/2021
Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: STORMWATER CATCHMENTS PLAN
EXTERNAL CATCHMENTS

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	1:500	A1

Drawing Number: CV-CARDNO-S02-2305
Revision: 3

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 18 August 2021 8:51 AM BY: JOSHUA BEZZINA

LEGEND

- PROPOSED POTABLE WATER
- PROPOSED POTABLE WATER HYRDRANT AND STOP VALVE
- PROPOSED ELECTRICAL CONDUIT
- PROPOSED ELECTRICAL PILLAR
- PROPOSED LIGHT POLE
- PROPOSED ELECTRICAL SUBSTATION
- PROPOSED SEWER LINE
- PROPOSED CONCRETE ENCASEMENT SEWER LINE
- PROPOSED SEWER MAINTENANCE SHAFT AND MANHOLE
- PROPOSED COMMUNICATION LINE
- PROPOSED COMMUNICATION PIT
- PROPOSED STORMWATER PIPE
- PROPOSED STORMWATER PIT AND LINTEL
- INDICATIVE GARAGE LOCATION
- RETAINING WALL
- COUNCIL STREET TREE

EXISTING ROAD 02

EXISTING ROAD 03

ROAD 04

ROAD 05

ROAD 01

ROAD 11

NORTH

JOINS DRG. 1102

CAD File: \\cardno.com\global\AUNSW\Directory\Structure\Projects\8022\PY19053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\CC\02 Stage 2-4\CV-CARDNO-S02-2401-2404-DWG\1).dwg

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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Drawn	WP	30/07/2021
Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SERVICES COORDINATION PLAN
SHEET 1 OF 4

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	1:500	A1

Drawing Number: CV-CARDNO-S02-2401

Revision: 3

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

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JOINS DRG. 2401

JOINS DRG. 2404

JOINS DRG. 2403

JOINS DRG. 2403

NORTH

LEGEND

- PROPOSED POTABLE WATER
- PROPOSED POTABLE WATER HYRDRANT AND STOP VALVE
- PROPOSED ELECTRICAL CONDUIT
- PROPOSED ELECTRICAL PILLAR
- PROPOSED LIGHT POLE
- PROPOSED ELECTRICAL SUBSTATION
- PROPOSED SEWER LINE
- PROPOSED CONCRETE ENCASEMENT SEWER LINE
- PROPOSED SEWER MAINTENANCE SHAFT AND MANHOLE
- PROPOSED COMMUNICATION LINE
- PROPOSED COMMUNICATION PIT
- PROPOSED STORMWATER PIPE
- PROPOSED STORMWATER PIT AND LINTEL
- INDICATIVE GARAGE LOCATION
- RETAINING WALL
- COUNCIL STREET TREE

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SERVICES COORDINATION PLAN
SHEET 2 OF 4

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	1:500	A1

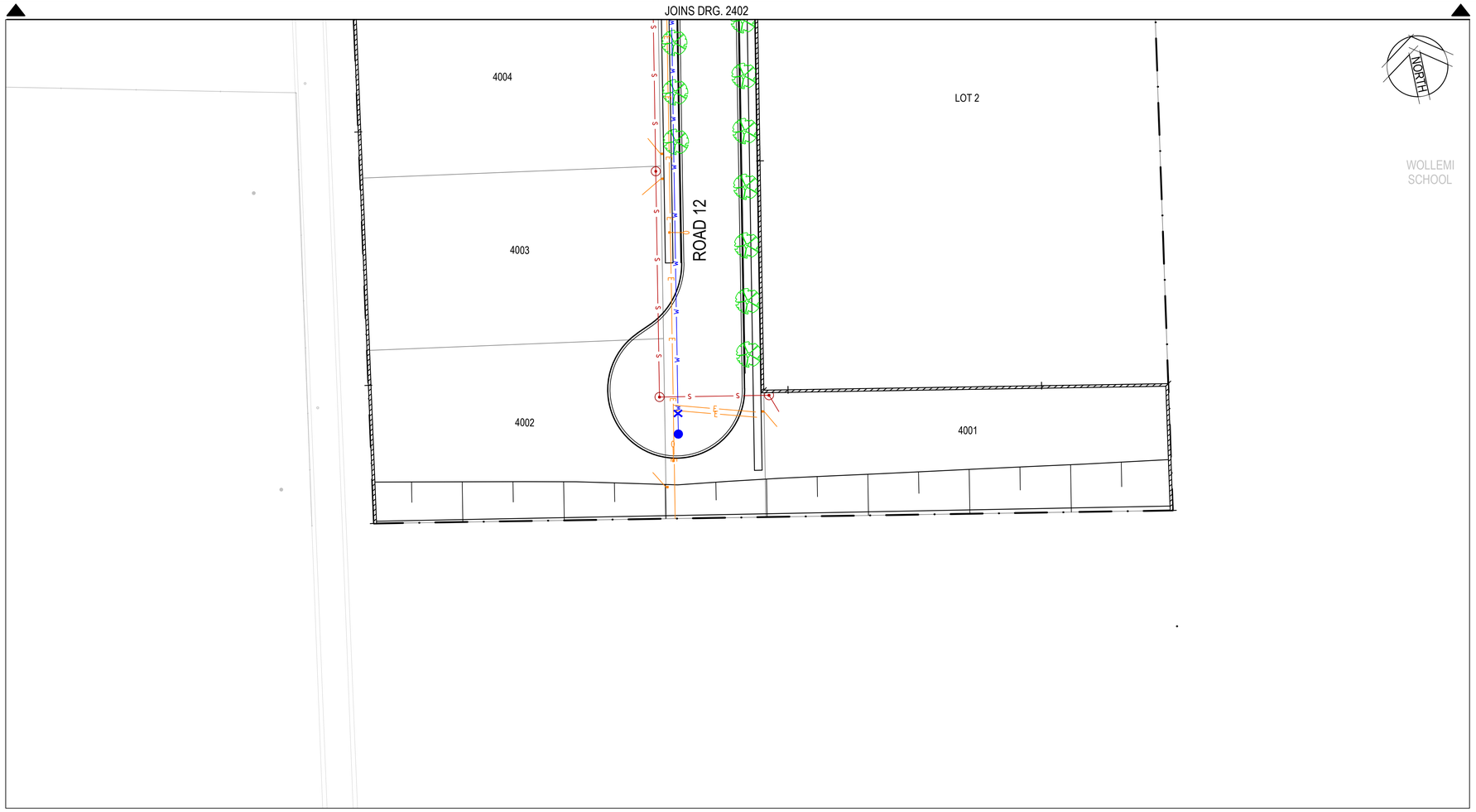
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Revision: 3

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

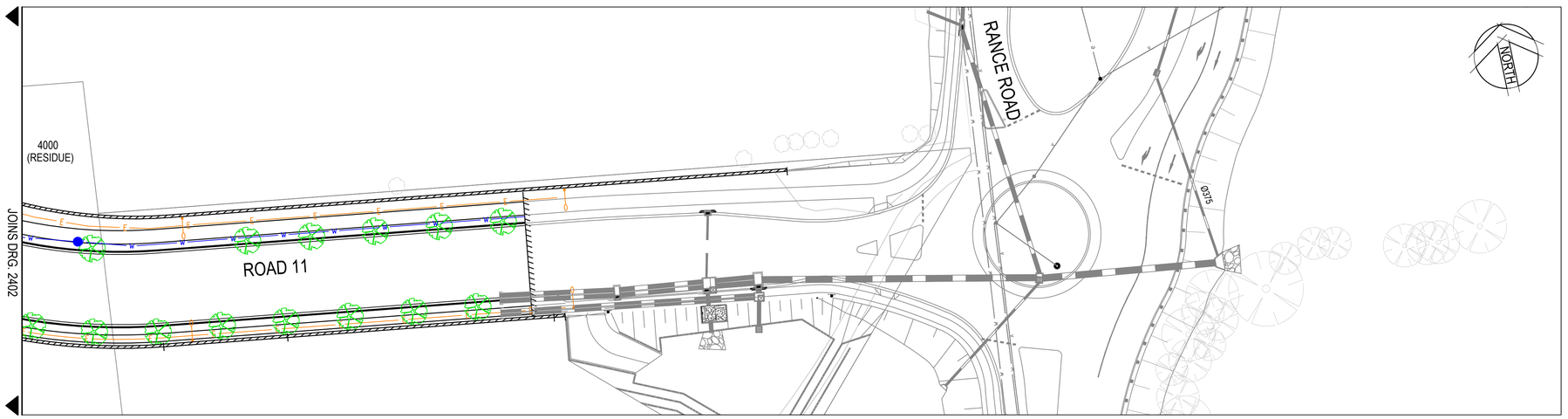
DATE PLOTTED: 18 August 2021 8:55 AM BY : JOSHUA BEZZINA

JOINS DRG. 2402



LEGEND

- PROPOSED POTABLE WATER
- PROPOSED POTABLE WATER HYRDRANT AND STOP VALVE
- PROPOSED ELECTRICAL CONDUIT
- PROPOSED ELECTRICAL PILLAR
- PROPOSED LIGHT POLE
- PROPOSED ELECTRICAL SUBSTATION
- PROPOSED SEWER LINE
- PROPOSED CONCRETE ENCASEMENT SEWER LINE
- PROPOSED SEWER MAINTENANCE SHAFT AND MANHOLE
- PROPOSED COMMUNICATION LINE
- PROPOSED COMMUNICATION PIT
- PROPOSED STORMWATER PIPE
- PROPOSED STORMWATER PIT AND LINTEL
- INDICATIVE GARAGE LOCATION
- RETAINING WALL
- COUNCIL STREET TREE



Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: SERVICES COORDINATION PLAN
SHEET 3 OF 4

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	1:500	A1

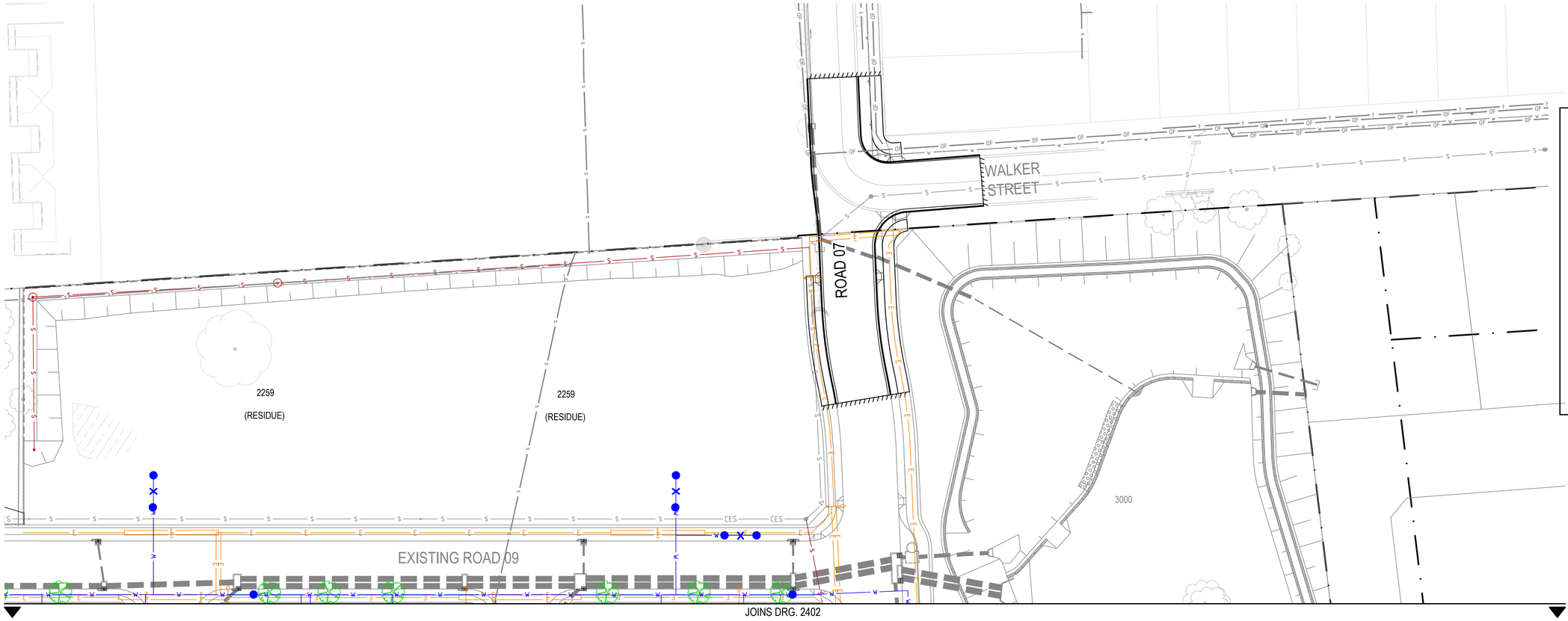
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Revision: 3

CAD File: \\cardno.corp\global\AUNSW\Directory\Structure\Projects\8020\PY19053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\CC\02 Stage 2-4\CV-CARDNO-S02-2401-2404-DWG(1).dwg

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 18 August 2021 8:56 AM BY : JOSHUA BEZZINA



LEGEND

- PROPOSED POTABLE WATER
- PROPOSED POTABLE WATER HYRDRANT AND STOP VALVE
- PROPOSED ELECTRICAL CONDUIT
- PROPOSED ELECTRICAL PILLAR
- PROPOSED LIGHT POLE
- PROPOSED ELECTRICAL SUBSTATION
- PROPOSED SEWER LINE
- PROPOSED CONCRETE ENCASEMENT SEWER LINE
- PROPOSED SEWER MAINTENANCE SHAFT AND MANHOLE
- PROPOSED COMMUNICATION LINE
- PROPOSED COMMUNICATION PIT
- PROPOSED STORMWATER PIPE
- PROPOSED STORMWATER PIT AND LINTEL
- INDICATIVE GARAGE LOCATION
- RETAINING WALL
- COUNCIL STREET TREE

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

lendlease

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SCALE 1:500 @A1

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SHEET 4 OF 4

Status: FOR APPROVAL
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Datum	Date	Scale	Size
AHD	Jul' 2021	1:500	A1

Drawing Number: CV-CARDNO-S02-2404
Revision: 3

CAD File: \\cardno.corp\global\AU\NSW\Directory\Structure\Projects\8022\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\CC\02 Stage 2-4\CV-CARDNO-S02-2401-2404-DWG(1).dwg

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 17 August 2021 5:35 PM BY: JOSHUA BEZZINA

LOCATION AND LAND-USE					TIME AND RUNOFF						INLET DESIGN						PIPE SYSTEM DESIGN											PIT RESULTS							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	31a	31b	32	33	34	35	36
Design AEP	Pit Name	Sub-Catchment Area (ha)	Land-Use	Percent-age	Constant Flow Time (minutes)	Kinematic Wave or Friends Formula Parameters Length (m)	Slope (%)	Roughness n	Total Time tc (minutes)	Peak Sub-Catchment Flowrate (m^3/s) *worst storm	Origin of Approach Flows	Overflows Flowrate (m^3/s)	Approaching Flow Width (m)	Pit Depth x Velocity (m^2/s)	Inlet Family	Inlet Size	Total Approach Flow (m^3/s)	Overflow Bypass Flow (m^3/s)	Leaving Flow Width (m)	Pit Depth x Velocity (m^2/s)	Peak Flow in Pipe (m^3/s)	Reach Length (m)	Pipe Slope (m)	Pipe Diameter (mm)	U/S Pipe Invert Level (m)	D/S Pipe Invert Level (m)	U/S HGL in Pipe (m)	D/S HGL in Pipe (m)	Pipe Flow Velocity (m/s)	Pressure Change Coeff. Ku	QUDM Chart No. 2008 [2013]	QUDM Chart Ratios	Water Surface Elevation (m)	Grate Surface Level (m)	Free-board (m)	Pit Name	Remarks
20%	**D01/9**	0.1292	Paved	80	6				6	0.035					NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.035	0	1.69	0.05	0.034	21.788	0.5	375	24.678	24.569	24.867	24.823	0.61	5.93	A1-4 [A2-3]0, Vo2/(2gE		24.9	25.954	1.05	**D01/9**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**D01/9**	0.1292	Paved	<------	-------	as above	-------	------>	6	0.069							0.069	0.009	2.42	0.08	0.061						25.791	25.766	0.56	3.15	A1-4 [A2-3]7, Vo2/(2gE		25.85	25.954	0.11	**D01/9**	
			Grassed						10																											
20%	**D01/8**	0.1521	Paved	80	6				6	0.041					NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.041	0	0.62	0.02	0.072	26.411	0.5	375	24.519	24.387	24.716	24.665	1.22	5.93	A1-4 [A2-3]0, Vo2/(2gE		24.82	25.774	0.95	**D01/8**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**D01/8**	0.1521	Paved	<------	-------	as above	-------	------>	6	0.081							0.081	0.042	2.1	0.07	0.114						25.647	25.578	1.04	3	A1-4 [A2-3]8, Vo2/(2gE		25.77	25.774	0.01	**D01/8**	
			Grassed						10																											
20%	**D01/7**	0.0224	Paved	80	6				6	0.006	D01/8	0.006	0.62	0.02	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.006	0	0.8	0.03	0.075	19.708	0.5	375	24.338	24.239	24.655	24.63	0.75	0.65	A1-5 [A2-4] Qg/Qo=0.'		24.66	25.578	0.91	**D01/7**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**D01/7**	0.0224	Paved	<------	-------	as above	-------	------>	6	0.012	D01/8	0.054	2.1	0.07			0.054	0.068	2.57	0.08	0.133						25.549	25.515	1.2	1.15	A1-5 [A2-4] Qg/Qo=0.:		25.58	25.578	0	**D01/7**	
			Grassed						10																											
20%	**D01/6**	0.0347	Paved	80	6				6	0.009	D01/7	0.009	0.8	0.03	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 2.4 m lintel	0.009	0	0.69	0.02	0.118	22.971	0.64	675	24.188	24.04	24.63	24.624	0.48	0	H-O'L	>=0.07, S/D	24.63	25.438	0.81	**D01/6**	
			Supp.	0	0						D01/6A	0	0	0																							Pipe flow velocity
			Grassed	20	10				10																											= 1.07m/s in the
1%	**D01/6**	0.0347	Paved	<------	-------	as above	-------	------>	6	0.018	D01/7	0.085	2.57	0.08			0.155	0.119	3.3	0.1	0.218						25.503	25.498	0.61	1.58	H-O'L	>=0.35, S/D	25.52	25.438	0	**D01/6**	1 EY storm event
			Grassed						10		D01/6A	0.069	9.14	0.01																							
20%	**D02/13**	0.0346	Paved	80	6				6	0.009					Grated Pits	600 x 600	0.009	0	0.6	0.03	0.009	10.056	1.05	150	26.19	26.084	26.277	26.15	1.21	5.93	A1-4 [A2-3]0, Vo2/(2gE		26.3	26.81	0.51	**D02/13**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**D02/13**	0.0346	Paved	<------	-------	as above	-------	------>	6	0.018							0.018	0.005	0.85	0.05	0.014						26.733	26.7	0.78	2.38	A1-4 [A2-3]5, Vo2/(2gE		26.8	26.81	0.01	**D02/13**	
			Grassed						10																											
20%	**D02/12**	0.0302	Paved	80	6				6	0.008	D02/13	0.008	0.6	0.03	Grated Pits	600 x 600	0.008	0	0.6	0.03	0.017	9.999	1	225	26.004	25.904	26.11	25.991	1.17	5.93	A1-4 [A2-3]0, Vo2/(2gE		26.14	26.715	0.58	**D02/12**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**D02/12**	0.0302	Paved	<------	-------	as above	-------	------>	6	0.016	D02/13	0.021	0.85	0.05			0.021	0.005	0.85	0.05	0.03						26.632	26.618	0.64	3.28	A1-4 [A2-3]6, Vo2/(2gE		26.7	26.715	0.01	**D02/12**	
			Grassed						10																											
20%	**D02/11**	0.03	Paved	80	6				6	0.008	D02/12	0.008	0.6	0.03	Grated Pits	600 x 600	0.008	0	0.64	0.03	0.026	12.501	1	225	25.854	25.729	25.985	25.843	1.23	1.62	A1-5 [A2-4] Qg/Qo=0.:		25.99	26.62	0.63	**D02/11**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**D02/11**	0.03	Paved	<------	-------	as above	-------	------>	6	0.016	D02/12	0.021	0.85	0.05			0.021	0.014	1.02	0.07	0.037						26.527	26.501	0.8	2.92	A1-4 [A2-3]8, Vo2/(2gE		26.62	26.62	0	**D02/11**	
			Grassed						10																											
20%	**D02/10**	0.0375	Paved	80	6				6	0.01	D02/11	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0.6	0.03	0.035	10	1	225	25.679	25.579	25.832	25.723	1.24	1.46	A1-5 [A2-4] Qg/Qo=0.:		25.84	26.501	0.66	**D02/10**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**D02/10**	0.0375	Paved	<------	-------	as above	-------	------>	6	0.02	D02/11	0.034	1.02	0.07			0.034	0.034	1.18	0.08	0.049						26.426	26.406	1.06	2.45	A1-4 [A2-3]1, Vo2/(2gE		26.5	26.501	0	**D02/10**	
			Grassed						10																											
20%	**D02/9**	0.03	Paved	80	6				6	0.008	D02/10	0.008	0.6	0.03	Grated Pits	600 x 600	0.008	0	0.64	0.03	0.043	12.5	0.96	225	25.529	25.409	25.699	25.537	1.74	1.08	A1-5 [A2-4] Qg/Qo=0.:		25.72	26.406	0.68	**D02/9**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**D02/9**	0.03	Paved	<------	-------	as above	-------	------>	6	0.016	D02/10	0.049	1.18	0.08			0.05	0.048	1.32	0.1	0.061						26.324	26.293	1.32	2.19	A1-4 [A2-3]3, Vo2/(2gE		26.41	26.406	0	**D02/9**	
			Grassed						10																											
20%	**D02/8**	0.0375	Paved	80	6				6	0.01	D02/9	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0.6	0.03	0.053	10	1	300	25.359	25.259	25.528	25.409	1.49	0.5	A1-5 [A2-4] Qg/Qo=0.:		25.53	26.294	0.77	**D02/8**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**D02/8**	0.0375	Paved	<------	-------	as above	-------	------>	6	0.02	D02/9	0.067	1.32	0.1			0.068	0.056	1.35	0.11	0.075						26.213	26.199	1.05	2.74	A1-4 [A2-3]8, Vo2/(2gE		26.29	26.294	0	**D02/8**	
			Grassed						10																											
20%	**D02/7**	0.03	Paved	80	6				6	0.008	D02/8	0.008	0.6	0.03	Grated Pits	600 x 600	0.008	0	0.6	0.03	0.061	10	1	300	25.209	25.109	25.399	25.27	1.56	0.84	A1-5 [A2-4] Qg/Qo=0.'		25.41	26.199	0.79	**D02/7**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**D02/7**	0.03	Paved	<------	-------	as above	-------	------>	6	0.016	D02/8	0.071	1.35	0.11			0.072	0.071	1.45	0.12	0.089						26.118	26.103	1.23	2.52	A1-4 [A2-3]0, Vo2/(2gE		26.2	26.199	0	**D02/7**	
			Grassed						10																											
20%	**D02/6**	0.03	Paved	80	6				6	0.008	D02/7	0.008	0.6	0.03	Grated Pits	600 x 600	0.008	0	0.64	0.03	0.069	12.5	1	300	25.059	24.934	25.261	25.116	1.52	0.77	A1-5 [A2-4] Qg/Qo=0.'		25.27	26.104	0.83	**D02/6**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**D02/6**	0.03	Paved	<------	-------	as above	-------	------>	6	0.016	D02/7	0.086	1.45	0.12			0.087	0.07	1.46	0.12	0.101						26.021	25.983	1.41	1.31	A1-5 [A2-4] Qg/Qo=0.!		26.1	26.104	0	**D02/6**	
			Grassed						10																											
20%	**D02/5**	0.0375	Paved	80	6				6	0.01	D02/6	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0.64	0.03	0.078	12.5	1	300	24.884	24.759	25.1	24.917	2.05	0.82	A1-5 [A2-4] Qg/Qo=0.'		25.12	25.983	0.87	**D02/5**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**D02/5**	0.0375	Paved	<------	-------	as above	-------	------>	6	0.02	D02/6	0.089	1.46	0.12			0.09	0.102	1.64	0.15	0.118						25.891	25.865	1.63	2.18	A1-4 [A2-3]4, Vo2/(2gE		25.98	25.983	0	**D02/5**	
			Grassed						10																											
20%	**D02/4**	0.0375	Paved	80	6				6	0.01	D02/5	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0.64	0.03	0.083	12.5	1	300	24.709	24.584	25.074	25.036	1.16	0.75	A1-5 [A2-4] Qg/Qo=0.'		25.12	25.865	0.74	**D02/4**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**D02/4**	0.0375	Paved	<------	-------	as above	-------	------>	6	0.02	D02/5	0.127	1.68	0.15			0.128	0.14	1.82	0.17	0.103						25.811	25.796	1.42	2.18	A1-4 [A2-3]6, Vo2/(2gE		25.86	25.865	0	**D02/4**	
			Grassed						10																											
20%	**D02/3**	0.0375	Paved	80	6				6	0.01	D02/4	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0	0	0.092	1.75	0.86	300	24.534	24.519	24.981	24.974	1.28	0.72	A1-5 [A2-4] Qg/Qo=0.'		25.04	25.796	0.76	**D02/3**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**D02/3**	0.0375	Paved	<------	-------	as above	-------	------>	6	0.02	D02/4	0.158	1.82	0.17			0.16	0.187	1.93	0.19	0.119						25.79	25.79	1.65	2.06	A1-4 [A2-3]1, Vo2/(2gE		25.8	25.796	0	**D02/3**	
			Grassed						10																											
20%	**D02/2**	No Area - Junction Pit	Paved								D02/3	0	0	0	Grated Pits	600 x 600	0	0	0	0	0.092	29.749	1	300	24.469	24.172	24.821	24.612	1.3	1.94	I [A2-28 & A Qg/Qo=0.(		24.97	25.79	0.82	**D02/2**	
			Supp.																																	
			Grassed																																	
1%	**D02/2**	No Area - Junction Pit	Paved	<------	-------	as above	-------	------>			D02/3	0.187	1.93	0.19			0.187	0.176	1.89	0.19	0.123						25.708	25.608	1.73	2.17	A1-4 [A2-3]1, Vo2/(2gE		25.79	25.79	0	**D02/2**	
			Grassed																																	
20%	**D02/1**	No Area - Junction Pit	Paved								D02/2	0	0	0	Grated Pits	600 x 600	0	0	1.13	0.06	0.09	4.759	3.07	375	24.122	23.976	24.566	24.556	0.82	1.45	7 [A2-8 & A Qg/Qo=0.(		24.61	25.615	1	**D02/1**	
			Supp.																																	
			Grassed																																	
1%	**D02/1**	No Area - Junction Pit	Paved	<------	-------	as above	-------	------>			D02/2	0.176	1.89	0.19			0.176	0.086	1.96	0.14	0.197						25.367	25.338	1.79	2.57	A1-4 [A2-3]3, Vo2/(2gE		25.61	25.615	0.01	**D02/1**	
			Grassed																																	
20%	**D05/2**	0.1321	Paved	80	6				6	0.036					NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.036	0	0.84	0.03	0.034	12.118	0.99	375	24.63	24.51	24.802	24.74	0.69	5.93	A1-4 [A2-3]0, Vo2/(2gE		24.83	25.814	0.99	**D05/2**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**D05/2**	0.1321	Paved	<------	-------	as above	-------	------>	6	0.07							0.07	0.011	1.65	0.04	0.061						25.751	25.74	0.55	2.91	A1-4 [A2-3]0, Vo2/(2gE		25.79	25.814	0.02	**D05/2**	
			Grassed						10																											
20%	**D04/1**	0.1536	Paved	80	6				6	0.041					NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.041	0	1.56	0.04	0.071	21.912	1	375	24.26	24.04	24.646	24.623	0.64	5.86	A1-4 [A2-3]0, Vo2/(2gE		24.74	25.808	1.07	**D04/1**	
			Supp.	0	0																															
			Grassed	20	10				10																											

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Verified	MZ	Date 30/07/2021
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Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: 5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA SHEET 1 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	AS SHOWN	A1

Drawing Number: CV-CARDNO-S02-2501

Revision: 3

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 17 August 2021 5:36 PM BY: JOSHUA BEZZINA

LOCATION AND LAND-USE					TIME AND RUNOFF					INLET DESIGN						PIPE SYSTEM DESIGN									PIT RESULTS						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	31a	31b	32	33	34	35	36
Design AEP	Pit Name	Sub-Catchment Area (ha)	Land-Use	Percent-age	Constant Flow Time (minutes)	Kinematic Wave or Friends Formula Parameters Length (m)	Slope (%)	Roughness n	Total Time tc (minutes)	Peak Sub-Catchment Flowrate (m^3/s) *worst storm	Origin of Approach Flows	Overflows Approaching Pit Flowrate (m^3/s)	Flow Width (m)	Depth x Velocity (m^2/s)	Inlet Family	Inlet Size	Total Approach Flow (m^3/s)	Overflow Leaving Pit Bypass Flow (m^3/s)	Flow Width (m)	Depth x Velocity (m^2/s)	Peak Flow in Pipe (m^3/s)	Reach Length (m)	Pipe Slope (m)	Pipe Diameter (mm)	U/S Pipe Invert Level (m)	D/S Pipe Invert Level (m)	U/S HGL in Pipe (m)	D/S HGL in Pipe (m)	Pipe Flow Velocity (m/s)	Pressure Change Coeff. Ku	QUDM Chart No. 2008 [2013]	QUDM Chart Ratios	Water Surface Elevation (m)	Grate Surface Level (m)	Free-board (m)	Pit Name	Remarks
1%	**D04/1**	0.1536	Paved			as above			6	0.082							0.082	0.015	2.41	0.07	0.128						25.587	25.497	1.16	2.45	A1-4 [A2-3]5, Vo2/(2gE		25.74	25.808	0.07	**D04/1**	
			Grassed		10				10																												
20%	**D01/6A**	0.157	Paved	80	6				6	0.042	D01/9	0.034	1.69	0.05	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 2.4 m lintel	0.042	0	0	0	0.041	9	1	375	24.46	24.37	24.649	24.63	0.73	5.93	A1-4 [A2-3]0, Vo2/(2gE		24.7	25.44	0.74	**D01/6A**	
			Supp.	0	0						D05/2	0.008	0.84	0.03																							
			Grassed	20	10				10																												
1%	**D01/6A**	0.157	Paved			as above			6	0.084	D01/9	0.074	2.42	0.08			0.104	0.067	9.02	0.01	0.089						25.516	25.514	0.8	3.07	A1-4 [A2-3]8, Vo2/(2gE		25.53	25.44	0	**D01/6A**	
			Grassed						10		D05/2	0.028	1.65	0.04																							
20%	**E01/14**	0.1242	Paved	80	6				6	0.033	E01/15	0.033	1.14	0.08	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.033	0	1.86	0.07	0.216	74.907	1.61	450	27.884	26.677	28.206	27.707	1.77	0.52	.1-20 [A2-3; Qg/Qo=0.		28.21	29.628	1.42	**E01/14**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E01/14**	0.1242	Paved			as above			6	0.066	E01/15	0.109	2.08	0.14			0.113	0.036	2.85	0.11	0.394						29.363	28.15	2.48	0.78	.1-20 [A2-3; Qg/Qo=0.:		29.61	29.628	0.02	**E01/14**	
			Grassed						10																												
20%	**E01/13**	0.1743	Paved	80	6				6	0.047	E01/14	0.047	1.86	0.07	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.047	0.001	1.09	0.04	0.267	27.105	0.73	450	26.647	26.449	27.553	27.345	1.68	1.04	.1-20 [A2-3; Qg/Qo=0.		27.71	28.15	0.44	**E01/13**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E01/13**	0.1743	Paved			as above			6	0.093	E01/14	0.123	2.85	0.11			0.129	0.342	4.82	0.18	0.319						28.065	27.955	2	1.09	.1-20 [A2-3; Qg/Qo=0.:		28.15	28.15	0	**E01/13**	
			Grassed						10																												
20%	**E01/12**	0.0516	Paved	80	6				6	0.014	E01/13	0.015	1.09	0.04	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.015	0	1.69	0.05	0.28	48.119	0.71	450	26.419	26.078	27.2	26.818	1.76	0.95	A1-5 [A2-4] Qg/Qo=0.:		27.34	27.955	0.61	**E01/12**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E01/12**	0.0516	Paved			as above			6	0.027	E01/13	0.367	4.82	0.18			0.369	0.356	4.97	0.19	0.349						27.856	27.615	2.2	1.03	A1-5 [A2-4] Qg/Qo=0.:		27.95	27.955	0	**E01/12**	
			Grassed						10																												
20%	**E01/11**	0.125	Paved	80	6				6	0.034	E01/12	0.034	1.69	0.05	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.034	0	1.35	0.04	0.313	28.755	0.71	525	26.048	25.844	26.773	26.646	1.44	0.43	.1-20 [A2-3; Qg/Qo=0.		26.82	27.618	0.8	**E01/11**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E01/11**	0.125	Paved			as above			6	0.067	E01/12	0.415	4.97	0.19			0.423	0.363	4.93	0.19	0.383						27.52	27.416	1.77	1.12	.1-20 [A2-3; Qg/Qo=0.:		27.62	27.618	0	**E01/11**	
			Grassed						10																												
20%	**E01/10**	0.0803	Paved	80	6				6	0.022	E01/11	0.022	1.35	0.04	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.022	0	1.67	0.05	0.33	45.805	0.65	525	25.814	25.515	26.586	26.358	1.53	0.51	A1-5 [A2-4] Qg/Qo=0.(		26.65	27.417	0.77	**E01/10**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E01/10**	0.0803	Paved			as above			6	0.043	E01/11	0.4	4.93	0.19			0.406	0.363	4.99	0.19	0.402						27.307	27.096	1.86	1	A1-5 [A2-4] Qg/Qo=0.:		27.42	27.417	0	**E01/10**	
			Grassed						10																												
20%	**E01/9**	0.1221	Paved	80	6				6	0.033	E01/10	0.033	1.67	0.05	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.033	0	1.39	0.05	0.357	11.614	0.94	525	25.485	25.376	26.117	26.049	1.65	1.75	i [A2-20 & A Qg/Qo=0.		26.36	27.096	0.74	**E01/9**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E01/9**	0.1221	Paved			as above			6	0.065	E01/10	0.417	4.99	0.19			0.428	0.412	4.87	0.22	0.447						26.944	26.892	2.06	1.44	i [A2-20 & A Qg/Qo=0.:		27.1	27.096	0	**E01/9**	
			Grassed						10																												
20%	**E01/8**	0.0464	Paved	80	6				6	0.012					NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.012	0	0.41	0.02	0.367	14.736	1.03	525	25.346	25.194	25.797	25.706	1.86	1.73	7 [A2-8 & A Qg/Qo=0.(		26.05	27.093	1.04	**E01/8**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E01/8**	0.0464	Paved			as above			6	0.025							0.025	0	0.63	0.03	0.465						26.759	26.684	2.15	1.1	7 [A2-8 & A Qg/Qo=0.(		26.89	27.093	0.2	**E01/8**	
			Grassed						10																												
20%	**E01/7**	0.0154	Paved	80	6				6	0.004	E01/8	0.004	0.41	0.02	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.004	0	0.4	0.02	0.37	16.913	1.19	525	25.164	24.963	25.574	25.331	2.28	1.73	7 [A2-8 & A Qg/Qo=0.(		25.71	26.871	1.17	**E01/7**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E01/7**	0.0154	Paved			as above			6	0.008	E01/8	0.008	0.63	0.03			0.008	0	0.6	0.03	0.465						26.547	26.455	2.15	1.07	7 [A2-8 & A Qg/Qo=0.(		26.68	26.871	0.19	**E01/7**	
			Grassed						10																												
20%	**E01/6**	0.0145	Paved	80	6				6	0.004	E01/7	0.004	0.4	0.02	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.004	0	1.39	0.06	0.413	35.463	1.47	600	24.933	24.411	25.331	25.18	2.07	0.05	.1-25 [A2-3(Qg/Qo=0.(		25.33	26.62	1.29	**E01/6**	
			Supp.	0	0						E04/1	0.004	0.45	0.02																								
			Grassed	20	10				10																												
1%	**E01/6**	0.0145	Paved			as above			6	0.008	E01/7	0.008	0.6	0.03			0.008	0	1.93	0.08	0.491						26.406	26.22	1.74	0.33	i [A2-37 & A=1.50, (Qu		26.45	26.62	0.17	**E01/6**	
			Grassed						10		E04/1	0.008	0.57	0.03																							
20%	**E01/5**	0.1068	Paved	80	6				6	0.029	E01/6	0.029	1.39	0.06	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.029	0	1.55	0.06	0.457	33.594	0.63	600	24.381	24.169	25.07	24.912	1.62	0.83	H-O'L >=0.07, S/E		25.18	26.22	1.04	**E01/5**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E01/5**	0.1068	Paved			as above			6	0.057	E01/6	0.057	1.93	0.08			0.057	0.064	2.79	0.12	0.583						26.012	25.804	2.06	1.19	H-O'L >=0.09, S/E		26.22	26.22	0	**E01/5**	
			Grassed						10																												
20%	**E01/4**	0.1347	Paved	80	6				6	0.036	E01/5	0.036	1.55	0.06	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.036	0	1.27	0.05	0.485	22.5	0.74	600	24.139	23.973	24.829	24.709	1.72	0.56	A1-5 [A2-4] Qg/Qo=0.(		24.91	25.805	0.89	**E01/4**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E01/4**	0.1347	Paved			as above			6	0.072	E01/5	0.13	2.79	0.12			0.136	0.107	2.96	0.13	0.637						25.687	25.538	2.25	0.62	A1-5 [A2-4] Qg/Qo=0.:		25.8	25.805	0	**E01/4**	
			Grassed						10																												
20%	**E01/3**	0.0935	Paved	80	6				6	0.025	E01/4	0.025	1.27	0.05	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.025	0	1.09	0.04	0.566	10.438	0.51	750	23.943	23.89	24.709	24.686	1.28	0	.1-20 [A2-3; Qg/Qo=0.(		24.71	25.54	0.83	**E01/3**	
			Supp.	0	0						E02/1	0.025	0.89	0.06																								
			Grassed	20	10				10																												
1%	**E01/3**	0.0935	Paved			as above			6	0.05	E01/4	0.152	2.96	0.13			0.157	0.116	2.96	0.12	0.784						25.488	25.454	1.77	0.41	.1-20 [A2-3; Qg/Qo=0.		25.54	25.54	0	**E01/3**	
			Grassed						10		E02/1	0.05	1.16	0.09																							
20%	**E02/9**	0.035	Paved	80	6				6	0.009					Grated Pits	600 x 600	0.009	0	0.64	0.03	0.009	12.5	1	150	26.329	26.204	26.417	26.271	1.19	5.93	A1-4 [A2-3]0, Vo2/(2gE		26.44	26.942	0.5	**E02/9**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E02/9**	0.035	Paved			as above			6	0.019							0.019	0.005	0.89	0.05	0.014						26.857	26.813	0.77	2.46	A1-4 [A2-3]4, Vo2/(2gE		26.93	26.942	0.01	**E02/9**	
			Grassed						10																												
20%	**E02/8**	0.0375	Paved	80	6				6	0.01	E02/9	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0.58	0.03	0.019	10	1	225	26.124	26.024	26.237	26.118	1.16	5.93	A1-4 [A2-3]0, Vo2/(2gE		26.27	26.825	0.56	**E02/8**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E02/8**	0.0375	Paved			as above			6	0.02	E02/9	0.024	0.89	0.05			0.025	0.007	0.87	0.05	0.031						26.736	26.721	0.67	3.34	A1-4 [A2-3]5, Vo2/(2gE		26.81	26.825	0.01	**E02/8**	
			Grassed						10																												
20%	**E02/7**	0.03	Paved	80	6				6	0.008	E02/8	0.008	0.58	0.03	Grated Pits	600 x 600	0.008	0	0.64	0.03	0.028	12.5	1	225	25.974	25.849	26.11	25.966	1.28	1.53	A1-5 [A2-4] Qg/Qo=0.:		26.12	26.723	0.6	**E02/7**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E02/7**	0.03	Paved			as above			6	0.016	E02/8	0.023	0.87	0.05			0.023	0.017	1.05	0.07	0.039						26.623	26.595	0.85	2.98	A1-4 [A2-3]7, Vo2/(2gE		26.72	26.723	0	**E02/7**	
			Grassed						10																												
20%	**E02/6**	0.0375	Paved	80	6				6	0.01	E02/7	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0.64	0.03	0.037	12.5	1	225	25.799	25.674	25.957	25.834	1.18	1.41	A1-5 [A2-4] Qg/Qo=0.:		25.97	26.595	0.63	**E02/6**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E02/6**	0.0375	Paved			as above			6	0.02	E02/7	0.036	1.05	0.07			0.037	0.034	1.21	0.09	0.054						26.497	26.464	1.17	2.52	A1-4 [A2-3]0, Vo2/(2gE		26.59	26.595	0	**E02/6**	
			Grassed						10																												
20%	**E02/5**	0.0375	Paved	80	6				6	0.01	E02/6	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0.64	0.03	0.047	12.5	1	225	25.624	25.499	25.801	25.632	1.82	1.2	A1-5 [A2-4] Qg/Qo=0.:		25.83	26.464	0.63	**E02/5**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E02/5**	0.0375	Paved			as above			6	0.02	E02/6	0.053	1.21	0.09			0.054	0.052	1.34	0.11	0.071						26.356	26.315	1.54	2.19	A1-4 [A2-3]1, Vo2/(2gE		26.46	26.464	0	**E02/5**	
			Grassed						10																												

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Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: 5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA SHEET 2 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	AS SHOWN	A1

Drawing Number: CV-CARDNO-S02-2502

Revision: 3

Document Set ID: 9948076
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LOCATION AND LAND-USE					TIME AND RUNOFF				INLET DESIGN						PIPE SYSTEM DESIGN								PIT RESULTS						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	31a	31b	32	33	34	35	36
Design AEP	Pit Name	Sub-Catchment Area (ha)	Land-Use	Percent-age	Constant Flow Time (minutes)	Kinematic Wave or Friends Formula Parameters Length (m)	Slope (%)	Roughness n	Total Time tc (minutes)	Peak Sub-Catchment Flowrate (m³/s) *worst storm	Origin of Approach Flows	Overflows Approaching Pit Flowrate (m³/s)	Flow Width (m)	Depth x Velocity (m²/s)	Inlet Family	Inlet Size	Total Approach Flow (m³/s)	Overflow Leaving Pit Bypass Flow (m³/s)	Flow Width (m)	Depth x Velocity (m²/s)	Peak Flow in Pipe (m³/s)	Reach Length (m)	Pipe Slope (m/s)	Pipe Diameter (mm)	U/S Pipe Invert Level (m)	D/S Pipe Invert Level (m)	U/S HGL in Pipe (m)	D/S HGL in Pipe (m)	Pipe Flow Velocity (m/s)	Pressure Change Coeff. Ku	QUDM Chart No. 2008 [2013]	QUDM Chart Ratios	Water Surface Elevation (m)	Grate Surface Level (m)	Free-board (m)	Pit Name	Remarks
20%	**E02/4**	0.0375	Paved	80	6				6	0.01	E02/5	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0.64	0.03	0.057	12.5	1	300	25.449	25.324	25.62	25.489	1.42	0.42	A1-5 [A2-4]	Qg/Qo=0.:	25.62	26.315	0.69	**E02/4**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E02/4**	0.0375	Paved	<------	-------	as above	-------	------>	6	0.02	E02/5	0.07	1.34	0.11			0.072	0.081	1.53	0.13	0.09						26.287	26.281	1.25	2.69	A1-4 [A2-3]	8, Vo2/(2g(	26.32	26.315	0	**E02/4**	
			Grassed						10																												
20%	**E02/3**	0.0375	Paved	80	6				6	0.01	E02/4	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0	0	0.067	1.5	1	300	25.274	25.259	25.473	25.404	1.95	0.92	A1-5 [A2-4]	Qg/Qo=0.:	25.49	26.281	0.79	**E02/3**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E02/3**	0.0375	Paved	<------	-------	as above	-------	------>	6	0.02	E02/4	0.1	1.53	0.13			0.101	0.102	1.54	0.13	0.106						26.262	26.262	1.47	2.35	A1-4 [A2-3]	2, Vo2/(2g(	26.28	26.281	0	**E02/3**	
			Grassed						10																												
20%	**E02/2**	No Area - Junction Pit	Paved								E02/3	0	0	0	Grated Pits	600 x 600	0	0	0	0	0.066	30	1	300	25.209	24.909	25.356	25.054	1.95	0.01	! [A2-28 & /	Qg/Qo=0.(	25.36	26.278	0.92	**E02/2**	
			Supp.																																		
			Grassed																																		
1%	**E02/2**	No Area - Junction Pit	Paved	<------	-------	as above	-------	------>			E02/3	0.103	1.54	0.13			0.103	0.017	0.78	0.04	0.118						25.93	25.749	1.63	2.72	A1-4 [A2-3]	8, Vo2/(2g(	26.26	26.278	0.02	**E02/2**	
			Grassed																																		
20%	**E02/1**	No Area - Junction Pit	Paved								E02/2	0	0	0	Grated Pits	600 x 600	0	0	0.89	0.06	0.065	4.819	1	375	24.254	24.206	24.716	24.711	0.59	7.22	A1-4 [A2-3]	2, Vo2/(2g(	24.83	25.88	1.05	**E02/1**	
			Supp.																																		
			Grassed																																		
1%	**E02/1**	No Area - Junction Pit	Paved	<------	-------	as above	-------	------>			E02/2	0.017	0.78	0.04			0.017	0	1.16	0.09	0.129						25.56	25.538	1.17	2.76	A1-4 [A2-3]	5, Vo2/(2g(	25.75	25.88	0.13	**E02/1**	Pipe flow velocity = 0.98m/s in the 1 EY storm event
			Grassed																																		
20%	**E03/1**	0.101	Paved	80	6				6	0.027	E01/9	0.027	1.39	0.05	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.027	0	1.12	0.05	0.027	9.129	1.04	375	25.254	25.159	25.404	25.249	1.33	5.93	A1-4 [A2-3]	0, Vo2/(2g(	25.4	26.33	0.93	**E03/1**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E03/1**	0.101	Paved	<------	-------	as above	-------	------>	6	0.054	E01/9	0.452	4.87	0.22			0.466	0.369	4.64	0.2	0.124						26.237	26.22	1.12	3.03	A1-4 [A2-3]	8, Vo2/(2g(	26.32	26.33	0.01	**E03/1**	
			Grassed						10																												
20%	**E04/5**	0.0418	Paved	80	6				6	0.011					Grated Pits	600 x 600	0.011	0	0.64	0.02	0.011	10.038	1.01	150	26.558	26.457	26.748	26.726	0.6	5.27	A1-4 [A2-3]	2, Vo2/(2g(	26.85	27.164	0.32	**E04/5**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E04/5**	0.0418	Paved	<------	-------	as above	-------	------>	6	0.022							0.022	0.012	1.04	0.05	0.014						27.128	27.111	0.73	2.37	A1-4 [A2-3]	7, Vo2/(2g(	27.16	27.164	0	**E04/5**	
			Grassed						10																												
20%	**E04/4**	0.0291	Paved	80	6				6	0.008	E04/5	0.008	0.64	0.02	Grated Pits	600 x 600	0.008	0	0.64	0.02	0.019	10.045	1	150	26.407	26.307	26.64	26.574	1.02	1.59	A1-5 [A2-4]	Qg/Qo=0.:	26.73	27.111	0.39	**E04/4**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E04/4**	0.0291	Paved	<------	-------	as above	-------	------>	6	0.016	E04/5	0.028	1.04	0.05			0.028	0.031	1.25	0.07	0.024						27.079	27.06	1.26	2.02	A1-4 [A2-3]	4, Vo2/(2g(	27.11	27.111	0	**E04/4**	
			Grassed						10																												
20%	**E04/3**	0.0291	Paved	80	6				6	0.008	E04/4	0.008	0.64	0.02	Grated Pits	600 x 600	0.008	0	0.64	0.02	0.027	10.045	1	150	26.257	26.157	26.411	26.297	1.51	1.33	A1-5 [A2-4]	Qg/Qo=0.:	26.57	27.06	0.49	**E04/3**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E04/3**	0.0291	Paved	<------	-------	as above	-------	------>	6	0.016	E04/4	0.046	1.25	0.07			0.047	0.047	1.4	0.09	0.04						27.017	26.988	2.13	1.79	A1-4 [A2-3]	9, Vo2/(2g(	27.06	27.06	0	**E04/3**	
			Grassed						10																												
20%	**E04/2**	0.0291	Paved	80	6				6	0.008	E04/3	0.008	0.64	0.02	Grated Pits	600 x 600	0.008	0	0.71	0.03	0.035	15.068	1	225	26.107	25.956	26.22	26.068	1.66	0	A1-5 [A2-4]	Qg/Qo=0.:	26.22	27.01	0.79	**E04/2**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E04/2**	0.0291	Paved	<------	-------	as above	-------	------>	6	0.016	E04/3	0.062	1.4	0.09			0.063	0.004	0.96	0.05	0.072						26.688	26.569	1.57	2.55	A1-4 [A2-3]	5, Vo2/(2g(	26.99	27.01	0.02	**E04/2**	
			Grassed						10																												
20%	**E04/1**	0.0429	Paved	80	6				6	0.012	E04/2	0.012	0.71	0.03	Grated Pits	600 x 600	0.012	0	0.45	0.02	0.046	4.567	0.99	375	25.278	25.233	25.434	25.359	1.42	5.93	A1-4 [A2-3]	0, Vo2/(2g(	25.5	26.931	1.43	**E04/1**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E04/1**	0.0429	Paved	<------	-------	as above	-------	------>	6	0.023	E04/2	0.025	0.96	0.05			0.027	0	0.57	0.03	0.096						26.466	26.455	0.87	2.74	A1-4 [A2-3]	2, Vo2/(2g(	26.57	26.931	0.36	**E04/1**	
			Grassed						10																												
20%	**E05/1**	0.0432	Paved	80	6				6	0.012					NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.012	0	0.73	0.03	0.013	9.038	1	375	26.648	26.558	26.836	26.818	0.23	5.93	A1-4 [A2-3]	0, Vo2/(2g(	26.84	27.624	0.79	**E05/1**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E05/1**	0.0432	Paved	<------	-------	as above	-------	------>	6	0.023							0.023	0.01	1.4	0.06	0.028						27.615	27.615	0.26	3.29	A1-4 [A2-3]	8, Vo2/(2g(	27.62	27.624	0.01	**E05/1**	Pipe flow velocity = 0.86m/s in the 1 EY storm event
			Grassed						10																												
20%	**E06/1**	0.0482	Paved	80	6				6	0.013					NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.013	0	0.75	0.04	0.018	9.677	0.99	375	27.209	27.113	27.707	27.707	0.16	5.22	A1-4 [A2-3]	3, Vo2/(2g(	27.71	28.183	0.47	**E06/1**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E06/1**	0.0482	Paved	<------	-------	as above	-------	------>	6	0.026							0.026	0.04	1.95	0.08	0.034						28.155	28.15	0.31	3.34	A1-4 [A2-3]	5, Vo2/(2g(	28.18	28.183	0	**E06/1**	Pipe flow velocity = 0.9m/s in the 1 EY storm event
			Grassed						10																												
20%	**E07/1**	0.0496	Paved	80	6				6	0.013					NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.013	0	0.6	0.04	0.013	10.575	1	375	28.738	28.632	28.834	28.693	1.12	5.93	A1-4 [A2-3]	0, Vo2/(2g(	28.83	29.784	0.95	**E07/1**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**E07/1**	0.0496	Paved	<------	-------	as above	-------	------>	6	0.026							0.026	0	0.95	0.05	0.028						29.611	29.607	0.25	3.6	A1-4 [A2-3]	3, Vo2/(2g(	29.64	29.784	0.15	**E07/1**	
			Grassed						10																												
20%	**F02/8**	0.0388	Paved	80	6				6	0.01					Grated Pits	600 x 600	0.01	0	0.64	0.03	0.01	12.5	1	150	26.715	26.59	26.808	26.686	0.88	5.9	A1-4 [A2-3]	0, Vo2/(2g(	26.84	27.353	0.51	**F02/8**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**F02/8**	0.0388	Paved	<------	-------	as above	-------	------>	6	0.021							0.021	0.006	0.9	0.06	0.016						27.261	27.21	0.83	2.37	A1-4 [A2-3]	5, Vo2/(2g(	27.34	27.353	0.01	**F02/8**	
			Grassed						10																												
20%	**F02/7**	0.0375	Paved	80	6				6	0.01	F02/8	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0.64	0.03	0.02	12.5	1	225	26.54	26.415	26.655	26.52	1.06	5.93	A1-4 [A2-3]	0, Vo2/(2g(	26.69	27.223	0.54	**F02/7**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**F02/7**	0.0375	Paved	<------	-------	as above	-------	------>	6	0.02	F02/8	0.025	0.9	0.06			0.026	0.007	0.93	0.06	0.033						27.12	27.098	0.72	3.47	A1-4 [A2-3]	4, Vo2/(2g(	27.21	27.223	0.01	**F02/7**	
			Grassed						10																												
20%	**F02/6**	0.0375	Paved	80	6				6	0.01	F02/7	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0.64	0.03	0.031	12.5	1	225	26.365	26.24	26.508	26.363	1.3	1.68	A1-5 [A2-4]	Qg/Qo=0.:	26.52	27.098	0.58	**F02/6**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**F02/6**	0.0375	Paved	<------	-------	as above	-------	------>	6	0.02	F02/7	0.027	0.93	0.06			0.027	0.025	1.12	0.08	0.04						27.004	26.978	0.87	2.98	A1-4 [A2-3]	6, Vo2/(2g(	27.1	27.098	0	**F02/6**	
			Grassed						10																												
20%	**F02/5**	0.0375	Paved	80	6				6	0.01	F02/6	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0.64	0.03	0.04	12.5	1	225	26.19	26.065	26.354	26.219	1.3	1.34	A1-5 [A2-4]	Qg/Qo=0.:	26.36	26.978	0.61	**F02/5**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**F02/5**	0.0375	Paved	<------	-------	as above	-------	------>	6	0.02	F02/6	0.044	1.12	0.08			0.045	0.041	1.26	0.09	0.054						26.873	26.838	1.17	2.55	A1-4 [A2-3]	9, Vo2/(2g(	26.98	26.978	0	**F02/5**	
			Grassed						10																												
20%	**F02/4**	0.0375	Paved	80	6				6	0.01	F02/5	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0.64	0.03	0.049	12.5	1	225	26.015	25.89	26.197	26.089	1.33	1.14	A1-5 [A2-4]	Qg/Qo=0.:	26.22	26.838	0.62	**F02/4**	
			Supp.	0	0																																
			Grassed	20	10				10																												
1%	**F02/4**	0.0375	Paved	<------	-------	as above	-------	------>	6	0.02	F02/5	0.06	1.26	0.09			0.061	0.079	1.52	0.13	0.072						26.82	26.813	1.56	2.16	A1-4 [A2-3]	3, Vo2/(2g(	26.84	26.838	0	**F02/4**	
			Grassed						10																												
20%	**F02/3**	0.0375	Paved	80	6				6	0.01	F02/4	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0	0	0.059	1.5	1	225	25.84	25.825	26.039	25.997	1.69	1	A1-5 [A2-4]	Qg/Qo=0.:	26.09	26.813	0.72	**F02/3**	
			Supp.	0	0																																
			Grassed	20	10				10																												

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Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: 5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA
SHEET 3 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	AS SHOWN	A1

Drawing Number: CV-CARDNO-S02-2503

Revision: 3

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 17 August 2021 5:36 PM BY: JOSHUA BEZZINA

LOCATION AND LAND-USE					TIME AND RUNOFF				INLET DESIGN							PIPE SYSTEM DESIGN										PIT RESULTS							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	31a	31b	32	33	34	35	36
Design AEP	Pit Name	Sub-Catchment Area (ha)	Land-Use	Percent-age	Constant Flow Time (minutes)	Kinematic Wave or Friends Formula Parameters Length (m)	Slope (%)	Roughness n	Total Time tc (minutes)	Peak Sub-Catchment Flowrate (m^3/s) *worst storm	Origin of Approach Flows	Overflows Approaching Flowrate (m^3/s)	Flow Width (m)	Pit Depth x Velocity (m^2/s)	Inlet Family	Inlet Size	Total Approach Flow (m^3/s)	Overflow Leaving Bypass Flow (m^3/s)	Flow Width (m)	Pit Depth x Velocity (m^2/s)	Peak Flow in Pipe (m^3/s)	Reach Length (m)	Pipe Slope (m)	Pipe Diameter (mm)	U/S Pipe Invert Level (m)	D/S Pipe Invert Level (m)	U/S HGL in Pipe (m)	D/S HGL in Pipe (m)	Pipe Flow Velocity (m/s)	Pressure Change Coeff. Ku	QUDM Chart No. 2008 [2013]	QUDM Chart Ratios	Water Surface Elevation (m)	Grate Surface Level (m)	Free-board (m)	Pit Name	Remarks
1%	**F02/3**	0.0375	Paved				as above		6	0.02	F02/4	0.098	1.52	0.13			0.099	0.105	1.56	0.13	0.102						26.793	26.792	2.21	1.94	A1-4 [A2-3]9, Vo2/(2g[		26.81	26.813	0	**F02/3**	
			Grassed						10																											
20%	**F02/2**	No Area - Junction Pit	Paved								F02/3	0	0	0	Grated Pits	600 x 600	0	0	0	0	0.059	30	1	300	25.775	25.475	25.961	25.61	1.89	1.79	I [A2-28 & A Qg/Qo=0.(	26	26.81	26.81	0.81	**F02/2**	
			Supp.																																	
			Grassed																																	
1%	**F02/2**	No Area - Junction Pit	Paved		<------	-------	as above	-------	------>		F02/3	0.105	1.56	0.13			0.105	0.015	0.75	0.04	0.113						26.41	26.238	1.56	3.29	A1-4 [A2-3]0, Vo2/(2g[		26.79	26.81	0.02	**F02/2**	
			Grassed																																	
20%	**F02/1**	No Area - Junction Pit	Paved								F02/2	0	0	0	Grated Pits	600 x 600	0	0	0.87	0.05	0.059	4.819	4.07	375	24.805	24.609	24.981	24.79	1.15	5.93	A1-4 [A2-3]0, Vo2/(2g[		25.02	26.414	1.39	**F02/1**	
			Supp.																																	
			Grassed																																	
1%	**F02/1**	No Area - Junction Pit	Paved		<------	-------	as above	-------	------>		F02/2	0.015	0.75	0.04			0.015	0	1.12	0.08	0.124						26.08	26.06	1.12	2.59	A1-4 [A2-3]3, Vo2/(2g[		26.24	26.414	0.18	**F02/1**	
			Grassed																																	
20%	**F01/3**	0.0862	Paved	80	6				6	0.023	F02/1	0.023	0.87	0.05	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.023	0	1.29	0.04	0.207	10.938	1.1	675	24.559	24.439	24.79	24.732	1.91	0	1-20 [A2-3(Qg/Qo=0.(		24.79	26.063	1.27	**F01/3**	
			Supp.	0	0						F01/4	0.023	1.24	0.05																							
			Grassed	20	10				10																											
1%	**F01/3**	0.0862	Paved	<------	-------	as above	-------	------>	6	0.046	F02/1	0.046	1.12	0.08			0.14	0.085	3.02	0.09	0.371						26.043	26.032	1.04	0.46	1-20 [A2-3(Qg/Qo=0.(		26.06	26.063	0	**F01/3**	
			Grassed						10		F01/4	0.137	2.85	0.12																							
20%	**F04/1**	0.0542	Paved	80	6				6	0.015					NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.015	0	1.09	0.05	0.014	9.599	1	375	25.71	25.614	25.813	25.678	1.14	5.93	A1-4 [A2-3]0, Vo2/(2g[		25.81	26.687	0.87	**F04/1**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**F04/1**	0.0542	Paved	<------	-------	as above	-------	------>	6	0.029							0.029	0	1.57	0.06	0.029						26.645	26.643	0.27	3.37	A1-4 [A2-3]5, Vo2/(2g[		26.66	26.687	0.03	**F04/1**	
			Grassed						10																											
20%	**F01/5**	0.0927	Paved	80	6				6	0.025	F01/6	0.025	1.27	0.05	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.025	0	1.48	0.06	0.102	27.9	1.33	375	25.238	24.867	25.471	25.136	1.41	2.7	H-O'L >=0.43, S/D		25.51	26.643	1.13	**F01/5**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**F01/5**	0.0927	Paved	<------	-------	as above	-------	------>	6	0.049	F01/6	0.053	1.87	0.07			0.055	0.067	2.78	0.12	0.169						26.496	26.353	1.53	1.9	H-O'L >=0.31, S/D		26.64	26.643	0	**F01/5**	
			Grassed						10																											
20%	**F01/4**	0.1229	Paved	80	6				6	0.033	F01/5	0.033	1.48	0.06	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.033	0	1.24	0.05	0.13	22.5	1.1	375	24.837	24.589	25.101	24.807	1.95	1.34	A1-5 [A2-4] Qg/Qo=0.(		25.14	26.356	1.22	**F01/4**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**F01/4**	0.1229	Paved	<------	-------	as above	-------	------>	6	0.065	F01/5	0.128	2.78	0.12			0.132	0.094	2.85	0.12	0.228						26.229	26.06	2.06	1.09	A1-5 [A2-4] Qg/Qo=0.(		26.35	26.356	0	**F01/4**	
			Grassed						10																											
20%	**F05/5**	0.044	Paved	80	6				6	0.012					Grated Pits	600 x 600	0.012	0	0.62	0.03	0.012	10.045	1	150	26.996	26.896	27.225	27.2	0.64	4.65	A1-4 [A2-3]5, Vo2/(2g[		27.32	27.614	0.29	**F05/5**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**F05/5**	0.044	Paved	<------	-------	as above	-------	------>	6	0.023							0.023	0.011	0.96	0.06	0.014						27.552	27.524	0.73	2.41	A1-4 [A2-3]6, Vo2/(2g[		27.61	27.614	0.01	**F05/5**	
			Grassed						10																											
20%	**F05/4**	0.0306	Paved	80	6				6	0.008	F05/5	0.008	0.62	0.03	Grated Pits	600 x 600	0.008	0	0.62	0.03	0.02	10.05	1	150	26.846	26.745	27.11	27.037	1.08	1.51	A1-5 [A2-4] Qg/Qo=0.(		27.2	27.524	0.32	**F05/4**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**F05/4**	0.0306	Paved	<------	-------	as above	-------	------>	6	0.016	F05/5	0.027	0.96	0.06			0.027	0.03	1.18	0.08	0.023						27.468	27.435	1.25	2.07	A1-4 [A2-3]0, Vo2/(2g[		27.52	27.524	0	**F05/4**	
			Grassed						10																											
20%	**F05/3**	0.0305	Paved	80	6				6	0.008	F05/4	0.008	0.62	0.03	Grated Pits	600 x 600	0.008	0	0.62	0.03	0.028	10.047	1	150	26.695	26.595	26.849	26.737	1.58	1.29	A1-5 [A2-4] Qg/Qo=0.(		27.04	27.435	0.4	**F05/3**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**F05/3**	0.0305	Paved	<------	-------	as above	-------	------>	6	0.016	F05/4	0.046	1.18	0.08			0.046	0.05	1.35	0.1	0.038						27.375	27.335	2.04	1.8	A1-4 [A2-3]4, Vo2/(2g[		27.43	27.435	0	**F05/3**	
			Grassed						10																											
20%	**F05/2**	0.0305	Paved	80	6				6	0.008	F05/3	0.008	0.62	0.03	Grated Pits	600 x 600	0.008	0	0.66	0.04	0.037	14.999	1	225	26.545	26.395	26.661	26.511	1.68	0	A1-5 [A2-4] Qg/Qo=0.(		26.66	27.347	0.69	**F05/2**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**F05/2**	0.0305	Paved	<------	-------	as above	-------	------>	6	0.016	F05/3	0.065	1.35	0.1			0.066	0.02	1.06	0.08	0.067						27.107	27.021	1.46	2.66	A1-4 [A2-3]4, Vo2/(2g[		27.33	27.347	0.01	**F05/2**	
			Grassed						10																											
20%	**F05/1**	0.0449	Paved	80	6				6	0.012	F05/2	0.012	0.66	0.04	Grated Pits	600 x 600	0.012	0	0.64	0.03	0.048	4.642	0.99	375	25.733	25.687	25.892	25.816	1.43	5.93	A1-4 [A2-3]0, Vo2/(2g[		25.96	27.222	1.26	**F05/1**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**F05/1**	0.0449	Paved	<------	-------	as above	-------	------>	6	0.024	F05/2	0.042	1.06	0.08			0.044	0	0.82	0.05	0.102						26.906	26.893	0.92	2.77	A1-4 [A2-3]1, Vo2/(2g[		27.02	27.222	0.2	**F05/1**	
			Grassed						10																											
20%	**F01/6**	0.0377	Paved	80	6				6	0.01	E05/1	0.01	0.73	0.03	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.01	0	1.27	0.05	0.058	32.553	1.13	375	25.637	25.268	25.788	25.509	1.39	0.14	I [A2-28 & A Qg/Qo=0.(		25.79	26.909	1.12	**F01/6**	
			Supp.	0	0						F05/1	0.01	0.64	0.03																							
			Grassed	20	10				10																											
1%	**F01/6**	0.0377	Paved	<------	-------	as above	-------	------>	6	0.02	E05/1	0.03	1.4	0.06			0.03	0.006	1.87	0.07	0.126						26.788	26.643	1.14	1.56	I [A2-28 & A Qg/Qo=0.(		26.89	26.909	0.02	**F01/6**	
			Grassed						10		F05/1	0.02	0.82	0.05																							
20%	**G02/8**	0.0344	Paved	80	6				6	0.009					Grated Pits	600 x 600	0.009	0	0.6	0.03	0.009	10.001	1	150	27.506	27.406	27.593	27.473	1.19	5.93	A1-4 [A2-3]0, Vo2/(2g[		27.62	28.256	0.64	**G02/8**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**G02/8**	0.0344	Paved	<------	-------	as above	-------	------>	6	0.018							0.018	0	0.77	0.04	0.018						27.971	27.911	0.99	2.53	A1-4 [A2-3]0, Vo2/(2g[		28.09	28.256	0.16	**G02/8**	
			Grassed						10																											
20%	**G02/7**	0.03	Paved	80	6				6	0.008	G02/8	0.008	0.6	0.03	Grated Pits	600 x 600	0.008	0	0.64	0.03	0.017	12.498	1	225	27.201	27.076	27.318	27.152	1.38	1.29	A1-5 [A2-4] Qg/Qo=0.(		27.32	28.106	0.79	**G02/7**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**G02/7**	0.03	Paved	<------	-------	as above	-------	------>	6	0.016	G02/8	0.016	0.77	0.04			0.016	0	0.84	0.05	0.034						27.817	27.793	0.75	3.27	A1-4 [A2-3]6, Vo2/(2g[		27.91	28.106	0.2	**G02/7**	
			Grassed						10																											
20%	**G02/6**	0.0375	Paved	80	6				6	0.01	G02/7	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0.64	0.03	0.027	12.501	1	225	26.981	26.856	27.115	26.98	1.13	1.81	A1-5 [A2-4] Qg/Qo=0.(		27.12	27.876	0.76	**G02/6**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**G02/6**	0.0375	Paved	<------	-------	as above	-------	------>	6	0.02	G02/7	0.02	0.84	0.05			0.02	0	0.84	0.05	0.054						27.706	27.647	1.18	1.22	A1-5 [A2-4] Qg/Qo=0.(		27.79	27.876	0.08	**G02/6**	
			Grassed						10																											
20%	**G02/5**	0.0375	Paved	80	6				6	0.01	G02/6	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0.6	0.03	0.037	10	1	225	26.811	26.711	26.968	26.863	1.22	1.44	A1-5 [A2-4] Qg/Qo=0.(		26.98	27.656	0.68	**G02/5**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**G02/5**	0.0375	Paved	<------	-------	as above	-------	------>	6	0.02	G02/6	0.02	0.84	0.05			0.02	0.008	0.89	0.05	0.069						27.548	27.483	1.5	1.03	A1-5 [A2-4] Qg/Qo=0.(		27.65	27.656	0.01	**G02/5**	
			Grassed						10																											
20%	**G02/4**	0.03	Paved	80	6				6	0.008	G02/5	0.008	0.6	0.03	Grated Pits	600 x 600	0.008	0	0.64	0.03	0.045	12.5	1	225	26.681	26.556	26.854	26.736	1.27	1.05	A1-5 [A2-4] Qg/Qo=0.(		26.86	27.483	0.62	**G02/4**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**G02/4**	0.03	Paved	<------	-------	as above	-------	------>	6	0.016	G02/5	0.023	0.89	0.05			0.024	0.032	1.19	0.09	0.085						27.404	27.346	1.85	1.16	A1-5 [A2-4] Qg/Qo=0.(		27.48	27.483	0	**G02/4**	
			Grassed						10																											
20%	**G02/3**	0.0375	Paved	80	6				6	0.01	G02/4	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0	0	0.054	1.5	1	225	26.506	26.491	26.697	26.651	1.69	1.07	A1-5 [A2-4] Qg/Qo=0.(		26.74	27.356	0.62	**G02/3**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**G02/3**	0.0375	Paved	<------	-------	as above	-------	------>	6	0.02	G02/4	0.051	1.19	0.09			0.052	0.019	0.82	0.05	0.105						27.129	27.111	2.28	1.27	A1-5 [A2-4] Qg/Qo=0.(		27.35	27.356	0.01	**G02/3**	
			Grassed						10																											

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Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: 5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA
SHEET 4 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	AS SHOWN	A1

Drawing Number: CV-CARDNO-S02-2504

Revision: 3

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 17 August 2021 5:37 PM BY : JOSHUA BEZZINA

LOCATION AND LAND-USE					TIME AND RUNOFF				INLET DESIGN						PIPE SYSTEM DESIGN								PIT RESULTS						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	31a	31b	32	33	34	35	36
Design AEP	Pit Name	Sub-Catchment Area (ha)	Land-Use	Percent-age	Constant Flow Time (minutes)	Kinematic Wave or Friends Formula Parameters Length (m)	Slope (%)	Roughness n	Total Time tc (minutes)	Peak Sub-Catchment Flowrate (m^3/s) *worst storm	Origin of Approach Flows	Overflows Approaching Pit Flowrate (m^3/s)	Flow Width (m)	Depth x Velocity (m^2/s)	Inlet Family	Inlet Size	Total Approach Flow (m^3/s)	Overflow Leaving Pit Bypass Flow (m^3/s)	Flow Width (m)	Depth x Velocity (m^2/s)	Peak Flow in Pipe (m^3/s)	Reach Length (m)	Pipe Slope (%)	Pipe Diameter (mm)	U/S Pipe Invert Level (m)	D/S Pipe Invert Level (m)	U/S HGL in Pipe (m)	D/S HGL in Pipe (m)	Pipe Flow Velocity (m/s)	Pressure Change Coeff. Ku	QUDM Chart No. 2008 [2013]	QUDM Chart Ratios	Water Surface Elevation (m)	Grate Surface Level (m)	Free-board (m)	Pit Name	Remarks
20%	**G02/2**	No Area - Junction Pit	Paved Supp. Grassed								G02/3	0	0	0	Grated Pits	600 x 600	0	0	0	0	0.054	32	1	300	26.441	26.121	26.62	26.25	1.84	1.74	I [A2-28 & ₄ Qg/Q∞=0.		26.65	27.354	0.7	**G02/2**	
1%	**G02/2**	No Area - Junction Pit	Paved Grassed		<------	-------	as above	------- ------>			G02/3	0.02	0.83	0.05			0.02	0	0	0	0.106						26.898	26.731	1.47	2.02	I [A2-28 & ₄ Qg/Q∞=0.		27.11	27.354	0.24	**G02/2**	
20%	**G02/1**	No Area - Junction Pit	Paved Supp. Grassed								G02/2	0	0	0	Grated Pits	600 x 600	0	0	0.89	0.06	0.054	4.819	3.11	375	25.35	25.2	25.518	25.412	1.12	5.93	A1-4 [A2-30, Vo2/(2gI		25.58	26.95	1.37	**G02/1**	
1%	**G02/1**	No Area - Junction Pit	Paved Grassed		<------	-------	as above	------- ------>			G02/2	0	0	0			0	0	1.14	0.08	0.126						26.617	26.603	1.14	2.55	A1-4 [A2-34, Vo2/(2gI		26.73	26.95	0.22	**G02/1**	
20%	**G01/3**	0.0908	Paved Supp. Grassed	80 0 20	6 0 10				6 10	0.024	G02/1 G01/4	0.024 0.024	0.89 1.27	0.06 0.05	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.024	0	1.33	0.04	0.199	10.743	1.14	675	25.139	25.017	25.412	25.389	1.47	0	.1-20 [A2-3, Qg/Q∞=0.		25.41	26.603	1.19	**G01/3**	
1%	**G01/3**	0.0908	Paved Grassed		<------	-------	as above	------- ------>	6 10	0.048	G02/1 G01/4	0.048 0.142	1.14 2.91	0.08 0.12			0.145	0.461	5.32	0.21	0.367						26.603	26.62	1.03	0.53	.1-20 [A2-3, Qg/Q∞=0.		26.6	26.603	0	**G01/3**	
20%	**G03/1**	0.0469	Paved Supp. Grassed	80 0 20	6 0 10				6 10	0.013					NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.013	0	1.35	0.04	0.012	11.715	1	375	26.257	26.14	26.349	26.2	1.1	5.93	A1-4 [A2-30, Vo2/(2gI		26.35	27.23	0.88	**G03/1**	
1%	**G03/1**	0.0469	Paved Grassed		<------	-------	as above	------- ------>	6 10	0.025							0.025	0	1.89	0.06	0.026						27.192	27.19	0.23	3.37	A1-4 [A2-35, Vo2/(2gI		27.2	27.23	0.03	**G03/1**	
20%	**G01/5**	0.0578	Paved Supp. Grassed	80 0 20	6 0 10				6 10	0.016	G01/6	0.016	0.97	0.04	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.016	0	1.59	0.06	0.093	33.388	1.05	375	25.797	25.447	26.019	25.704	1.36	2.13	H-O'L ⅄=0.34, S/[		26.05	27.19	1.14	**G01/5**	
1%	**G01/5**	0.0578	Paved Grassed		<------	-------	as above	------- ------>	6 10	0.031	G01/6	0.033	1.48	0.06			0.036	0.026	2.46	0.1	0.159						27.037	26.839	1.44	1.71	H-O'L ⅄=0.26, S/[		27.19	27.19	0	**G01/5**	
20%	**G01/4**	0.1395	Paved Supp. Grassed	80 0 20	6 0 10				6 10	0.038	G01/5	0.038	1.59	0.06	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.038	0	1.27	0.05	0.128	22.5	1.1	375	25.417	25.169	25.679	25.412	1.7	1.5	A1-5 [A2-4, Qg/Q∞=0.		25.7	26.839	1.14	**G01/4**	
1%	**G01/4**	0.1395	Paved Grassed		<------	-------	as above	------- ------>	6 10	0.074	G01/5	0.096	2.46	0.1			0.1	0.097	2.91	0.12	0.222						26.74	26.603	2.01	1.07	A1-5 [A2-4, Qg/Q∞=0.		26.84	26.839	0	**G01/4**	
20%	**G04/5**	0.0431	Paved Supp. Grassed	80 0 20	6 0 10				6 10	0.012					Grated Pits	600 x 600	0.012	0	0.51	0.03	0.012	10.021	1	150	27.849	27.749	28.067	28.043	0.62	4.85	A1-4 [A2-34, Vo2/(2gI		28.16	28.475	0.31	**G04/5**	
1%	**G04/5**	0.0431	Paved Grassed		<------	-------	as above	------- ------>	6 10	0.023							0.023	0.01	0.79	0.06	0.014						28.406	28.375	0.73	2.42	A1-4 [A2-36, Vo2/(2gI		28.47	28.475	0.01	**G04/5**	
20%	**G04/4**	0.0296	Paved Supp. Grassed	80 0 20	6 0 10				6 10	0.008	G04/5	0.008	0.51	0.03	Grated Pits	600 x 600	0.008	0	0.52	0.03	0.02	10.024	1	150	27.699	27.599	27.956	27.887	1.05	1.53	A1-5 [A2-4, Qg/Q∞=0.		28.04	28.375	0.33	**G04/4**	
1%	**G04/4**	0.0296	Paved Grassed		<------	-------	as above	------- ------>	6 10	0.016	G04/5	0.025	0.79	0.06			0.026	0.023	0.93	0.08	0.022						28.284	28.232	1.2	2.12	A1-4 [A2-38, Vo2/(2gI		28.38	28.375	0	**G04/4**	
20%	**G04/3**	0.0299	Paved Supp. Grassed	80 0 20	6 0 10				6 10	0.008	G04/4	0.008	0.52	0.03	Grated Pits	600 x 600	0.008	0	0.57	0.04	0.028	12.526	1.01	150	27.549	27.423	27.703	27.564	1.55	1.31	A1-5 [A2-4, Qg/Q∞=0.		27.89	28.232	0.35	**G04/3**	
1%	**G04/3**	0.0299	Paved Grassed		<------	-------	as above	------- ------>	6 10	0.016	G04/4	0.039	0.93	0.08			0.039	0.041	1.1	0.11	0.035						28.148	28.08	1.9	1.9	A1-4 [A2-39, Vo2/(2gI		28.23	28.232	0	**G04/3**	
20%	**G04/2**	0.0377	Paved Supp. Grassed	80 0 20	6 0 10				6 10	0.01	G04/3	0.01	0.57	0.04	Grated Pits	600 x 600	0.01	0	0.6	0.04	0.038	14.532	2.03	225	27.373	27.078	27.47	27.175	2.19	0	A1-5 [A2-4, Qg/Q∞=0.		27.47	28.105	0.63	**G04/2**	
1%	**G04/2**	0.0377	Paved Grassed		<------	-------	as above	------- ------>	6 10	0.02	G04/3	0.06	1.1	0.11			0.061	0	0.77	0.06	0.077						27.636	27.498	1.68	3.11	A1-4 [A2-32, Vo2/(2gI		28.08	28.105	0.02	**G04/2**	
20%	**G04/1**	0.0435	Paved Supp. Grassed	80 0 20	6 0 10				6 10	0.012	G04/2	0.012	0.6	0.04	Grated Pits	600 x 600	0.012	0	0.64	0.03	0.049	4.558	0.99	375	26.262	26.217	26.423	26.348	1.44	5.93	A1-4 [A2-30, Vo2/(2gI		26.5	27.722	1.23	**G04/1**	
1%	**G04/1**	0.0435	Paved Grassed		<------	-------	as above	------- ------>	6 10	0.023	G04/2	0.023	0.77	0.06			0.023	0	0.83	0.05	0.1						27.381	27.369	0.9	2.89	A1-4 [A2-30, Vo2/(2gI		27.5	27.722	0.22	**G04/1**	
20%	**G01/6**	0.0389	Paved Supp. Grassed	80 0 20	6 0 10				6 10	0.01	E06/1 G04/1	0.01 0.01	0.75 0.64	0.04 0.03	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.01	0	0.97	0.04	0.06	19.306	1.76	375	26.167	25.827	26.312	26.055	1.51	0.18	I [A2-28 & ₄ Qg/Q∞=0.		26.31	27.393	1.08	**G01/6**	
1%	**G01/6**	0.0389	Paved Grassed		<------	-------	as above	------- ------>	6 10	0.021	E06/1 G04/1	0.058 0.021	1.95 0.83	0.08 0.05			0.061	0.005	1.48	0.06	0.12						27.271	27.19	1.09	1.55	I [A2-28 & ₄ Qg/Q∞=0.		27.37	27.393	0.02	**G01/6**	
20%	**H04/1**	0.0503	Paved Supp. Grassed	80 0 20	6 0 10				6 10	0.014					NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.014	0	0.8	0.05	0.013	9.569	1	375	27.266	27.16	27.355	27.222	1.12	5.93	A1-4 [A2-30, Vo2/(2gI		27.35	28.264	0.91	**H04/1**	
1%	**H04/1**	0.0503	Paved Grassed		<------	-------	as above	------- ------>	6 10	0.027							0.027	0	1.24	0.07	0.027						27.888	27.885	0.24	4.55	A1-4 [A2-37, Vo2/(2gI		27.91	28.264	0.36	**H04/1**	
20%	**H01/4**	0.1009	Paved Supp. Grassed	80 0 20	6 0 10				6 10	0.027	H01/5	0.027	1.1	0.07	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.027	0	1.48	0.08	0.104	40.889	2.07	375	26.51	25.662	26.746	25.91	1.42	2.79	H-O'L ⅄=0.45, S/[		26.76	28.18	1.42	**H01/4**	
1%	**H01/4**	0.1009	Paved Grassed		<------	-------	as above	------- ------>	6 10	0.054	H01/5	0.054	1.59	0.09			0.054	0.004	2.08	0.12	0.188						27.606	27.199	1.7	1.86	H-O'L ⅄=0.30, S/[		27.88	28.18	0.3	**H01/4**	
20%	**H05/2**	0.0363	Paved Supp. Grassed	80 0 20	6 0 10				6 10	0.01	H05/3	0.01	0.64	0.03	Grated Pits	600 x 600	0.01	0	0.67	0.03	0.036	14.525	1.03	225	28.6	28.45	28.754	28.563	1.69	5.65	A1-4 [A2-30, Vo2/(2gI		28.81	29.814	1.01	**H05/2**	
1%	**H05/2**	0.0363	Paved Grassed		<------	-------	as above	------- ------>	6 10	0.019	H05/3	0.03	0.97	0.06			0.03	0	0.87	0.05	0.072						28.811	28.631	1.95	3.46	A1-4 [A2-30, Vo2/(2gI		29.18	29.814	0.63	**H05/2**	
20%	**H05/1**	0.0413	Paved Supp. Grassed	80 0 20	6 0 10				6 10	0.011	H05/2	0.011	0.67	0.03	Grated Pits	600 x 600	0.011	0	0.57	0.03	0.046	4.579	3.12	375	27.519	27.376	27.674	27.465	2.29	5.93	A1-4 [A2-30, Vo2/(2gI		27.72	29.112	1.39	**H05/1**	
1%	**H05/1**	0.0413	Paved Grassed		<------	-------	as above	------- ------>	6 10	0.022	H05/2	0.022	0.87	0.05			0.022	0	0.74	0.05	0.096						28.126	28.115	0.87	4.71	A1-4 [A2-36, Vo2/(2gI		28.3	29.112	0.82	**H05/1**	
20%	**H01/5**	0.0365	Paved Supp. Grassed	80 0 20	6 0 10				6 10	0.01	E07/1 H05/1	0.01 0.01	0.6 0.57	0.04 0.03	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.01	0	1.1	0.07	0.056	29.899	2.03	375	27.168	26.56	27.307	26.759	1.51	0.2	I [A2-28 & ₄ Qg/Q∞=0.		27.31	28.729	1.42	**H01/5**	
1%	**H01/5**	0.0365	Paved Grassed		<------	-------	as above	------- ------>	6 10	0.019	E07/1 H05/1	0.019 0.019	0.95 0.74	0.05 0.05			0.019	0	1.59	0.09	0.112						28.007	27.885	1.02	1.75	I [A2-28 & ₄ Qg/Q∞=0.		28.11	28.729	0.61	**H01/5**	
20%	**M01/3**	1.99	Paved Supp. Grassed	50 0 50	6 0 10										Grated Pits	900 x 900	0	0	0	0	0.143	11.251	0.49	375	22.167	22.112	22.872	22.852	1.3	2.02	I [A2-28 & ₄ Qg/Q∞=0.		22.93	23.788	0.86	**M01/3**	
1%	**M01/3**	1.99	Paved Grassed		<------	-------	as above	------- ------>									0	0	0	0	0.156						23.223	23.21	1.42	1.74	I [A2-28 & ₄ Qg/Q∞=0.		23.25	23.788	0.54	**M01/3**	
20%	**M01/2**	No Area - Junction Pit	Paved Supp. Grassed								M01/3	0	0	0	Junction Pit or Manhole (sealed)	Junction Pit or Manhole	0	0	0	0	0.143	13.574	0.49	375	22.092	22.025	22.818	22.794	1.3	1.3			22.85	23.526	0.67	**M01/2**	

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Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: 5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA
SHEET 5 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	AS SHOWN	A1

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LOCATION AND LAND-USE					TIME AND RUNOFF					INLET DESIGN							PIPE SYSTEM DESIGN									PIT RESULTS						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	31a	31b	32	33	34	35	36
Design AEP	Pit Name	Sub-Catchment Area (ha)	Land-Use	Percent-age	Constant Flow Time (minutes)	Kinematic Wave or Friends Formula Parameters Length (m)	Slope (%)	Roughness n	Total Time tc (minutes)	Peak Sub-Catchment Flowrate (m^3/s) *worst storm	Origin of Approach Flows	Overflows Approaching Pit Flowrate (m^3/s)	Flow Width (m)	Depth x Velocity (m^2/s)	Inlet Family	Inlet Size	Total Approach Flow (m^3/s)	Overflow Leaving Pit Bypass Flow (m^3/s)	Flow Width (m)	Depth x Velocity (m^2/s)	Peak Flow in Pipe (m^3/s)	Reach Length (m)	Pipe Slope (m)	Pipe Diameter (mm)	U/S Pipe Invert Level (m)	D/S Pipe Invert Level (m)	U/S HGL in Pipe (m)	D/S HGL in Pipe (m)	Pipe Flow Velocity (m/s)	Pressure Change Coeff. Ku	QUDM Chart No. 2008 [2013]	QUDM Chart Ratios	Water Surface Elevation (m)	Grate Surface Level (m)	Free-board (m)	Pit Name	Remarks
1%	M01/2	No Area - Junction Pit	Paved Grassed	<------	------	as above	------	------>			M01/3	0	0	0			0	0	0	0	0.156						23.21	23.215	1.42	1.3			23.21	23.526	0.11	M01/2	
20%	M01/1	No Area - Junction Pit	Paved Supp. Grassed												Junction Pit or Manhole (sealed)	Junction Pit or Manhole	0				0.143	2.024	0.79	375	22.006	21.99	22.745	22.742	1.29	1.98	I [A2-28 & A	Qg/Qo=0.(	22.79	23.48	0.69	M01/1	
1%	M01/1	No Area - Junction Pit	Paved Grassed	<------	------	as above	------	------>									0				0.156						23.215	23.217	1.41	1.68	I [A2-28 & A	Qg/Qo=0.(	23.21	23.48	0.27	M01/1	
20%	L02/1	0.0345	Paved Supp. Grassed	95 0 5	6 0 10				6 10	0.01					NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.01	0	0.42	0.03	0.011	16.881	3.89	375	22.875	22.219	22.972	22.862	0.5	5.93	A1-4 [A2-3(), Vo2/(2g(		22.97	24.759	1.79	L02/1	Pipe flow velocity constrained by downstream confluence point
1%	L02/1	0.0345	Paved Grassed	<------	------	as above	------	------>	6 10	0.02							0.02	0	0.67	0.04	0.023						23.439	23.439	0.21	4.93	A1-4 [A2-3(), Vo2/(2g(		23.44	24.759	1.32	L02/1	

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
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Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: 5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA
SHEET 6 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	AS SHOWN	A1

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LOCATION AND LAND-USE					TIME AND RUNOFF					INLET DESIGN							PIPE SYSTEM DESIGN									PIT RESULTS							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	31a	31b	32	33	34	35	36
Design AEP	Pit Name	Sub-Catchment Area (ha)	Land-Use	Percent-age	Constant Flow Time (minutes)	Kinematic Wave or Friends Formula Parameters Length (m)	Slope (%)	Roughness n	Total Time tc (minutes)	Peak Sub-Catchment Flowrate (m^3/s) *worst storm	Origin of Approach Flows	Overflows Flowrate (m^3/s)	Approaching Flow Width (m)	Pit Depth x Velocity (m^2/s)	Inlet Family	Inlet Size	Total Approach Flow (m^3/s)	Bypass Flow (m^3/s)	Overflow Leaving Flow Width (m)	Pit Depth x Velocity (m^2/s)	Peak Flow in Pipe (m^3/s)	Reach Length (m)	Pipe Slope (%)	Pipe Diameter (mm)	U/S Pipe Invert Level (m)	D/S Pipe Invert Level (m)	U/S HGL in Pipe (m)	D/S HGL in Pipe (m)	Pipe Flow Velocity (m/s)	Pressure Change Coeff. Ku	QUDM Chart No. 2008 [2013	QUDM Chart Ratios	Water Surface Elevation (m)	Grate Surface Level (m)	Free-board (m)	Pit Name	Remarks
5%	**B01/24**	1.0169	Paved	0	0	-1	-1	-1	0	0.167					Grated Pits	600 x 600	0.167	0	0	0	0.165	39.904	7.65	375	37.75	34.699	38.048	35.024	1.75	4.17	A1-4 [A2-3 0, Vo2/(2gl		38.11	40.084	1.97	**B01/24**	
			Supp.	0	0	-1		-1																													
			Grassed	100	3	220	7.5	0.15	24.19																												
1%	**B01/24**	1.0169	Paved	<------	------	as above	------	------>	0	0.279							0.279	0	0	0	0.247						38.09	36.003	2.35	3.08	A1-4 [A2-3 0, Vo2/(2gl		38.57	40.084	1.52	**B01/24**	
			Grassed						21.01																												
5%	**B01/23A**	0.3162	Paved	15	6				6	0.089					NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.089	0.019	1.24	0.09	0.203	35.186	5.85	375	34.649	32.59	34.971	33.306	2.02	1.4	A1-5 [A2-4, Qg/Qo=0.		35.02	36.917	1.89	**B01/23A**	
			Supp.	0	0																																
			Grassed	85	10				10																												
1%	**B01/23A**	0.3162	Paved	<------	------	as above	------	------>	6	0.128							0.128	0.042	1.69	0.11	0.304						35.654	34.758	2.75	0.91	A1-5 [A2-4, Qg/Qo=0.		36	36.917	0.91	**B01/23A**	
			Grassed						10																												
5%	**B01/23**	0.3043	Paved	15	6				6	0.086	B01/23A	0.039	1.24	0.09	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.105	0.028	1.52	0.09	0.257	34.294	2.95	375	32.54	31.528	32.993	32.391	2.33	1.18	A1-5 [A2-4, Qg/Qo=0.		33.31	34.758	1.45	**B01/23**	
			Supp.	0	0																																
			Grassed	85	10				10																												
1%	**B01/23**	0.3043	Paved	<------	------	as above	------	------>	6	0.123	B01/23A	0.072	1.69	0.11			0.165	0.147	2.75	0.16	0.329						34.472	33.709	2.97	0.85	A1-5 [A2-4, Qg/Qo=0.		34.76	34.758	0	**B01/23**	
			Grassed						10																												
5%	**B01/22**	0.2991	Paved	15	6				6	0.084	B01/23	0.048	1.52	0.09	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.112	0.032	1.58	0.09	0.328	27.75	3.71	375	31.478	30.448	31.95	31.133	2.97	0.99	A1-5 [A2-4, Qg/Qo=0.		32.39	33.712	1.32	**B01/22**	
			Supp.	0	0																																
			Grassed	85	10				10																												
1%	**B01/22**	0.2991	Paved	<------	------	as above	------	------>	6	0.121	B01/23	0.172	2.75	0.16			0.268	0.21	3.13	0.19	0.389						33.294	32.475	3.52	0.93	A1-5 [A2-4, Qg/Qo=0.		33.71	33.712	0	**B01/22**	
			Grassed						10																												
5%	**B01/21**	0.2887	Paved	15	6				6	0.082	B01/22	0.052	1.58	0.09	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.114	0.033	1.56	0.09	0.452	42.668	2.26	450	30.398	29.435	30.824	29.868	2.91	0.84	.1-20 [A2-3, Qg/Qo=0.		31.13	32.879	1.75	**B01/21**	
			Supp.	0	0																																
			Grassed	85	10				10																												
1%	**B01/21**	0.2887	Paved	<------	------	as above	------	------>	6	0.117	B01/22	0.236	3.13	0.19			0.327	0.185	2.92	0.18	0.542						31.912	30.745	3.41	1.07	.1-20 [A2-3, Qg/Qo=0.		32.48	32.879	0.4	**B01/21**	
			Grassed						10																												
5%	**B01/20**	0.295	Paved	15	6				6	0.083	B01/21	0.053	1.56	0.09	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.116	0.033	1.54	0.09	0.532	34.885	2.82	525	29.385	28.4	29.851	28.89	2.62	0.5	A1-5 [A2-4, Qg/Qo=0.		29.87	31.597	1.73	**B01/20**	
			Supp.	0	0																																
			Grassed	85	10				10																												
1%	**B01/20**	0.295	Paved	<------	------	as above	------	------>	6	0.12	B01/21	0.21	2.92	0.18			0.305	0.169	2.8	0.17	0.635						30.514	29.87	2.93	0.53	A1-5 [A2-4, Qg/Qo=0.		30.75	31.597	0.85	**B01/20**	
			Grassed						10																												
5%	**B01/19**	0.2865	Paved	15	6				6	0.081	B01/20	0.053	1.54	0.09	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.114	0.033	1.52	0.09	0.653	35.788	2.93	600	28.35	27.3	28.863	27.85	2.54	0.71	.1-20 [A2-3, Qg/Qo=0.		28.89	30.55	1.66	**B01/19**	
			Supp.	0	0																																
			Grassed	85	10				10																												
1%	**B01/19**	0.2865	Paved	<------	------	as above	------	------>	6	0.116	B01/20	0.194	2.8	0.17			0.285	0.154	2.69	0.17	0.804						29.598	29.076	2.84	0.66	.1-20 [A2-3, Qg/Qo=0.		29.87	30.55	0.68	**B01/19**	
			Grassed						10																												
5%	**B01/18**	0.2828	Paved	15	6				6	0.08	B01/19	0.052	1.52	0.09	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.113	0.032	1.5	0.09	0.746	35	2.29	600	27.25	26.447	27.783	26.83	3.92	0.7	A1-5 [A2-4, Qg/Qo=0.		27.85	29.477	1.63	**B01/18**	
			Supp.	0	0																																
			Grassed	85	10				10																												
1%	**B01/18**	0.2828	Paved	<------	------	as above	------	------>	6	0.115	B01/19	0.178	2.69	0.17			0.269	0.138	2.6	0.16	0.919						28.773	28.146	3.25	0.6	A1-5 [A2-4, Qg/Qo=0.		29.08	29.477	0.4	**B01/18**	
			Grassed						10																												
5%	**B01/17**	0.2836	Paved	15	6				6	0.08	B01/18	0.051	1.5	0.09	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.112	0.031	1.62	0.08	0.841	34.751	2.34	750	26.397	25.584	26.753	26.438	4.08	0	.1-20 [A2-3, Qg/Qo=0.		26.75	28.485	1.73	**B01/17**	
			Supp.	0	0																																
			Grassed	85	10				10																												
1%	**B01/17**	0.2836	Paved	<------	------	as above	------	------>	6	0.115	B01/18	0.163	2.6	0.16			0.253	0.125	2.65	0.14	1.073						28.146	27.814	2.43	0	.1-20 [A2-3, Qg/Qo=0.		28.15	28.485	0.34	**B01/17**	
			Grassed						10																												
5%	**B01/16**	0.2718	Paved	15	6				6	0.077	B01/17	0.049	1.62	0.08	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.108	0.029	1.84	0.07	0.916	35	0.59	750	25.534	25.326	26.307	26.105	2.07	0.6	A1-5 [A2-4, Qg/Qo=0.		26.44	27.814	1.38	**B01/16**	
			Supp.	0	0																																
			Grassed	85	10				10																												
1%	**B01/16**	0.2718	Paved	<------	------	as above	------	------>	6	0.11	B01/17	0.147	2.65	0.14			0.235	0.298	4.61	0.17	1.14						27.695	27.466	2.58	0.48	A1-5 [A2-4, Qg/Qo=0.		27.81	27.814	0	**B01/16**	
			Grassed						10																												
5%	**B01/15A**	0.2637	Paved	15	6				6	0.074	B01/16	0.046	1.84	0.07	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.103	0.025	1.77	0.06	0.991	35	0.5	750	25.276	25.101	26.026	25.718	2.55	0.56	A1-5 [A2-4, Qg/Qo=0.		26.1	27.48	1.38	**B01/15A**	
			Supp.	0	0																																
			Grassed	85	10				10																												
1%	**B01/15A**	0.2637	Paved	<------	------	as above	------	------>	6	0.107	B01/16	0.321	4.61	0.17			0.405	0.276	4.31	0.17	1.232						27.282	26.999	2.79	0.6	A1-5 [A2-4, Qg/Qo=0.		27.47	27.48	0.01	**B01/15A**	
			Grassed						10																												
5%	**B01/15**	0.2552	Paved	15	6				6	0.072	B01/15A	0.043	1.77	0.06	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.097	0.021	1.96	0.06	1.11	40.784	0.5	900	25.051	24.847	25.718	25.564	2.2	0	.1-20 [A2-3, Qg/Qo=0.		25.72	27.235	1.52	**B01/15**	
			Supp.	0	0																																
			Grassed	85	10				10																												
1%	**B01/15**	0.2552	Paved	<------	------	as above	------	------>	6	0.103	B01/15A	0.296	4.31	0.17			0.379	0.216	4.41	0.13	1.371						26.962	26.787	2.16	0.18	.1-20 [A2-3, Qg/Qo=0.		27	27.235	0.24	**B01/15**	
			Grassed						10																												
5%	**B01/14**	0.3031	Paved	15	6				6	0.086	B01/15	0.041	1.96	0.06	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.107	0.028	2.07	0.06	1.185	55.437	0.5	900	24.797	24.519	25.491	25.261	2.25	0.51	A1-5 [A2-4, Qg/Qo=0.		25.56	27.021	1.46	**B01/14**	
			Supp.	0	0						A01/14	0	0	0																								
			Grassed	85	10				10																												
1%	**B01/14**	0.3031	Paved	<------	------	as above	------	------>	6	0.123	B01/15	0.239	4.41	0.13			0.339	0.183	3.88	0.12	1.465						26.644	26.362	2.3	0.58	A1-5 [A2-4, Qg/Qo=0.		26.79	27.021	0.23	**B01/14**	
			Grassed						10		A01/14	0	0	0																								
5%	**B01/13**	0.0611	Paved	95	6				6	0.026	B01/14	0.046	2.07	0.06	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.054	0.001	1.37	0.06	1.272	34.914	0.5	900	24.489	24.315	25.176	24.979	2.53	0.54	.1-25 [A2-3, Qg/Qo=0.		25.26	26.562	1.3	**B01/13**	
			Supp.	0	0																																
			Grassed	5	10				10																												
1%	**B01/13**	0.0611	Paved	<------	------	as above	------	------>	6	0.035	B01/14	0.198	3.88	0.12			0.218	0.093	2.6	0.12	1.579						26.161	25.938	2.48	0.65	.1-20 [A2-3, Qg/Qo=0.		26.36	26.562	0.2	**B01/13**	
			Grassed						10																												
5%	**B01/12**	0.0047	Paved	95	6				6	0.002	B09/1	0	0	0	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.002	0	1.86	0.05	1.654	73.744	0.55	1200	24.285	23.881	24.958	24.742	2.53	0	.1-25 [A2-3, Qg/Qo=0.		24.96	26.317	1.36	**B01/12**	
			Supp.	0	0																																
			Grassed	5	10				10																												
1%	**B01/12**	0.0047	Paved	<------	------	as above	------	------>	6	0.003	B09/1	0.233	4.51	0.13			0.236	0.124	3.48	0.1	2.056						25.901	25.727	1.82	0.22	.1-20 [A2-3, Qg/Qo=0.		25.94	26.317	0.38	**B01/12**	
			Grassed						10																												
5%	**B01/11**	0.0804	Paved	95	6				6	0.034	B01/12	0.034	1.86	0.05	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.034	0	1.64	0.04	1.683	57.837	0.5	825	23.856	23.567	24.692	24.525	1.57	0.4	A1-5 [A2-4, Qg/Qo=0.		24.74	25.75	1.01	**B01/11**	
			Supp.	0	0																																
			Grassed	5	10				10																												
1%	**B01/11**	0.0804	Paved	<------	------	as above	------	------>	6	0.046	B01/12	0.141	3.48	0.1			0.17	0.051	2.45	0.07	2.128						25.636	25.37	1.99	0.46	A1-5 [A2-4, Qg/Qo=0.		25.73	25.75	0.02	**B01/11**	
			Grassed						10																												
5%	**B01/9**	0.0638	Paved	95	6				6	0.027	B01/11	0.027	1.64	0.04	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.027	0	1.16	0.03	1.695	29.575	0.5	825	23.537	23.389	24.49	24.404	1.59	0.28	A1-5 [A2-4, Qg/Qo=0.		24.53	25.392	0.87	**B01/9**	
			Supp.	0	0																																
			Grassed	5	10				10																												
1%	**B01/9**	0.0638	Paved	<------	------	as above	------	------>	6	0.037	B01/11	0.064	2.45	0.07			0.088	0	1.39	0.04	2.18						25.296	25.154	2.04	0.36	A1-5 [A2-4, Qg/Qo=0.		25.37	25.392	0.02	**B01/9**	
			Grassed						10																												
5%	**B01/8**	0.0335	Paved	95	6				6	0.014	B01/9	0.014	1.16	0.03	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.014	0	1.45	0.04	1.899	46.5	0.51	825	23.364	23.127	24.289	24.116	1.78	0.71	.1-25 [A2-3, Qg/Qo=0.		24.4	25.18	0.78	**B01/8**	
			Supp.	0	0																																
			Grassed	5	10				10																												
1%	**B01/8**	0.0335	Paved	<------	------	as above	------	------>	6	0.019	B01/9	0.02	1.39	0.04			0.019	0	1.71	0.05	2.223						24.993	24.767	2.08	0.77	.1-25 [A2-3, Qg/Qo=0.		25.15	25.18	0.03	**B01/8**	
			Grassed						10																												
5%	**B01/7**	0.0508	Paved	95	6				6	0.021	B01/8	0.021	1.45	0.04	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.021	0	1.45	0.04	2.022	46.574	0.5	825	23.097	22.864	24.023	23.825	1.89	0.51	.1-25 [A2-3, Qg/Qo=0.		24.12	24.855	0.74	**B01/7**	
			Supp.	0	0																																
			Grassed	5	10				10																												

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Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: 5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA
SHEET 7 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	AS SHOWN	A1

Drawing Number: CV-CARDNO-S02-2507

Revision: 3

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 17 August 2021 5:38 PM BY: JOSHUA BEZZINA

LOCATION AND LAND-USE					TIME AND RUNOFF					INLET DESIGN						PIPE SYSTEM DESIGN									PIT RESULTS								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	31a	31b	32	33	34	35	36
Design AEP	Pit Name	Sub-Catchment Area (ha)	Land-Use	Percent-age	Constant Flow Time (minutes)	Kinematic Wave or Friends Formula Parameters Length (m)	Slope (%)	Roughness n	Total Time tc (minutes)	Peak Sub-Catchment Flowrate (m^3/s) *worst storm	Origin of Approach Flows	Overflows Approaching Pit Flowrate (m^3/s)	Flow Width (m)	Depth x Velocity (m^2/s)	Inlet Family	Inlet Size	Total Approach Flow (m^3/s)	Overflow Leaving Pit Bypass Flow (m^3/s)	Flow Width (m)	Depth x Velocity (m^2/s)	Peak Flow in Pipe (m^3/s)	Reach Length (m)	Pipe Slope (m)	Pipe Diameter (mm)	U/S Pipe Invert Level (m)	D/S Pipe Invert Level (m)	U/S HGL in Pipe (m)	D/S HGL in Pipe (m)	Pipe Flow Velocity (m/s)	Pressure Change Coeff. Ku	QUDM Chart No. 2008 [2013	QUDM Chart Ratios	Water Surface Elevation (m)	Grate Surface Level (m)	Free-board (m)	Pit Name	Remarks
1%	**B01/7**	0.0508	Paved	<	-	-	as above	-	6	0.029	B01/8	0.029	1.71	0.05			0.029	0	1.71	0.05	2.461						24.618	24.354	2.3	0.61	1-25 [A2-3;	Qq/Qo=0.	24.77	24.855	0.09	**B01/7**	
			Grassed						10																											
5%	**B01/6**	0.0507	Paved	95	6				6	0.021	B01/7	0.021	1.45	0.04	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.021	0	1.13	0.03	2.033	30.513	0.5	825	22.834	22.681	23.779	23.648	1.9	0.25	A1-5 [A2-4;	Qq/Qo=0.	23.82	24.544	0.72	**B01/6**	
			Supp.	0	0																															
			Grassed	5	10				10																											
1%	**B01/6**	0.0507	Paved	<	-	-	as above	-	6	0.029	B01/7	0.029	1.71	0.05			0.029	0	1.35	0.04	2.481						24.288	24.114	2.32	0.27	A1-5 [A2-4;	Qq/Qo=0.	24.35	24.544	0.19	**B01/6**	
			Grassed						10																											
5%	**B01/5**	0.0329	Paved	95	6				6	0.014	B01/6	0.014	1.13	0.03	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.014	0	1.2	0.04	2.06	44.246	0.5	825	22.651	22.43	23.553	23.359	1.93	0.5	1-25 [A2-3;	Qq/Qo=0.	23.65	24.322	0.67	**B01/5**	
			Supp.	0	0																															
			Grassed	5	10				10																											
1%	**B01/5**	0.0329	Paved	<	-	-	as above	-	6	0.019	B01/6	0.019	1.35	0.04			0.019	0	1.43	0.05	2.558						23.978	23.7	2.39	0.5	1-25 [A2-3;	Qq/Qo=0.	24.11	24.322	0.21	**B01/5**	
			Grassed						10																											
5%	**B04/6**	0.1355	Paved	80	6				6	0.053					NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 2.4 m lintel	0.053	0.018	0.84	0.04	0.037	10.48	1	375	24.283	24.178	24.629	24.625	0.34	5.93	A1-4 [A2-3;	0, Vo2/(2g	24.67	25.68455	1.02	**B04/6**	
			Supp.	0	0																															
			Grassed	20	10				10																											Pipe flow velocity = 1m/s in the 1EY storm event
1%	**B04/6**	0.1355	Paved	<	-	-	as above	-	6	0.072							0.072	0.037	1.11	0.07	0.039						25.528	25.524	0.35	2.69	A1-4 [A2-3;	3, Vo2/(2g	25.54	25.68455	0.14	**B04/6**	
			Grassed						10																											
5%	**B04/5**	0.1007	Paved	80	6				6	0.039	B04/6	0.018	0.84	0.04	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 2.4 m lintel	0.057	0	0.27	0.01	0.089	14.346	0.86	375	24.128	24.004	24.495	24.474	0.81	5.93	A1-4 [A2-3;	0, Vo2/(2g	24.62	25.58479	0.96	**B04/5**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**B04/5**	0.1007	Paved	<	-	-	as above	-	6	0.054	B04/6	0.037	1.11	0.07			0.091	0	0.31	0.01	0.122						25.389	25.34	1.1	2.57	A1-4 [A2-3;	4, Vo2/(2g	25.52	25.58479	0.06	**B04/5**	
			Grassed						10																											
5%	**B04/4**	0.0025	Paved	95	6				6	0.001	B04/5	0.001	0.27	0.01	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.001	0	0	0	0.088	16.185	0.87	375	23.954	23.813	24.456	24.429	0.8	0.71	3 [A2-6 & A	Qq/Qo=0.	24.47	25.79385	1.32	**B04/4**	
			Supp.	0	0																															
			Grassed	5	10				10																											
1%	**B04/4**	0.0025	Paved	<	-	-	as above	-	6	0.001	B04/5	0.001	0.31	0.01			0.001	0	0	0	0.122						25.304	25.247	1.11	0.69	3 [A2-6 & A	Qq/Qo=0.	25.34	25.79385	0.45	**B04/4**	
			Grassed						10																											
5%	**B04/4A**	No Area - Junction Pit	Paved								B04/4	0	0	0	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0	0	0.94	0.08	0.086	14.815	0.94	375	23.763	23.624	24.424	24.397	0.78	0.2	A1-5 [A2-4;	Qq/Qo=0.	24.43	25.48484	1.06	**B04/4A**	
			Supp.																																	
			Grassed																																	
1%	**B04/4A**	No Area - Junction Pit	Paved	<	-	-	as above	-	>		B04/4	0	0	0			0	0	1.14	0.09	0.122						25.237	25.183	1.11	0.2	A1-5 [A2-4;	Qq/Qo=0.	25.25	25.48484	0.24	**B04/4A**	
			Grassed																																	
5%	**B04/3**	0.1402	Paved	80	6				6	0.055	B04/4A	0.027	0.94	0.08	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 2.4 m lintel	0.061	0	1.05	0.03	0.141	10.505	0.81	375	23.574	23.489	24.292	24.252	1.27	1.85	l [A2-28 & A	Qq/Qo=0.	24.4	25.07	0.67	**B04/3**	
			Supp.	0	0						B08/1	0.019	1.65	0.03																							
			Grassed	20	10				10																											
1%	**B04/3**	0.1402	Paved	<	-	-	as above	-	6	0.075	B04/4A	0.037	1.14	0.09			0.446	0.388	5.88	0.18	0.205						25.091	25.046	1.85	1.44	l [A2-28 & A	Qq/Qo=0.	25.18	25.07	0	**B04/3**	
			Grassed						10		B08/1	0.381	6.87	0.14																							
5%	**B04/2**	0.0487	Paved	95	6				6	0.02					NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.02	0	1.03	0.03	0.158	15.297	0.8	375	23.439	23.317	24.196	24.139	1.43	1.01	3 [A2-6 & A	Qq/Qo=0.	24.25	25.075	0.82	**B04/2**	
			Supp.	0	0																															
			Grassed	5	10				10																											
1%	**B04/2**	0.0487	Paved	<	-	-	as above	-	6	0.028							0.028	0	1.24	0.04	0.231						24.972	24.89	2.09	0.91	3 [A2-6 & A	Qq/Qo=0.	25.05	25.075	0.03	**B04/2**	
			Grassed						10																											
5%	**B04/1**	0.0319	Paved	95	6				6	0.013	B04/3	0.013	1.05	0.03	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.013	0	1.62	0.06	0.17	14.997	0.85	450	23.274	23.147	24.137	24.117	1.07	0.07	A1-6 [A2-5;	Qq/Qo=0.	24.14	24.893	0.75	**B04/1**	
			Supp.	0	0						B04/2	0.013	1.03	0.03																							
			Grassed	5	10				10																											
1%	**B04/1**	0.0319	Paved	<	-	-	as above	-	6	0.018	B04/3	0.398	5.88	0.18			0.406	0.347	4.83	0.19	0.247						24.816	24.767	1.55	1.2	A1-6 [A2-5;	Qq/Qo=0.	24.89	24.893	0	**B04/1**	
			Grassed						10		B04/2	0.018	1.24	0.04																							
5%	**B08A/2**	0.1567	Paved	80	6				6	0.061	B10/1	0.067	2.5	0.07	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.068	0.008	2.16	0.06	0.058	25	1.2	375	25.18	24.88	25.392	25.351	0.9	5.93	A1-4 [A2-3;	0, Vo2/(2g	25.48	26.255	0.78	**B08A/2**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**B08A/2**	0.1567	Paved	<	-	-	as above	-	6	0.083	B10/1	0.1	2.96	0.08			0.105	0.025	2.69	0.07	0.075						26.075	26.035	0.68	3.51	A1-4 [A2-3;	4, Vo2/(2g	26.16	26.255	0.1	**B08A/2**	
			Grassed						10																											
5%	**B08A/1**	0.1075	Paved	80	6				6	0.042	B08A/2	0.049	2.16	0.06	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.05	0.002	0.96	0.05	0.103	14.863	0.77	375	24.37	24.255	25.187	25.143	0.93	3.73	A1-4 [A2-3;	2, Vo2/(2g	25.35	26.08	0.73	**B08A/1**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**B08A/1**	0.1075	Paved	<	-	-	as above	-	6	0.057	B08A/2	0.079	2.69	0.07			0.082	0.013	1.41	0.06	0.141						25.849	25.765	1.28	2.19	A1-4 [A2-3;	9, Vo2/(2g	26.04	26.08	0.04	**B08A/1**	
			Grassed						10																											
5%	**B08/4**	0.0048	Paved	95	6				6	0.002	B08/5	0.002	0.36	0.01	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.002	0	2.09	0.06	0.2	23.378	0.58	450	24.048	23.913	25.073	25.002	1.26	1.18	l [A2-37 & A	=1.50, (Qu	25.14	25.7655	0.62	**B08/4**	
			Supp.	0	0																															
			Grassed	5	10				10																											
1%	**B08/4**	0.0048	Paved	<	-	-	as above	-	6	0.003	B08/5	0.118	3.18	0.09			0.119	0.112	3.63	0.11	0.221						25.668	25.6	1.39	1.76	1-20 [A2-3;	Qq/Qo=0.	25.77	25.7655	0	**B08/4**	
			Grassed						10																											
5%	**B08/3**	0.1143	Paved	80	6				6	0.045	B08/4	0.045	2.09	0.06	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.045	0.001	2.03	0.05	0.241	24.466	0.5	450	23.863	23.741	24.936	24.831	1.52	0.8	A1-5 [A2-4;	Qq/Qo=0.	25	25.602	0.6	**B08/3**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**B08/3**	0.1143	Paved	<	-	-	as above	-	6	0.061	B08/4	0.162	3.63	0.11			0.173	0.134	3.79	0.11	0.27						25.523	25.427	1.7	1.02	A1-5 [A2-4;	Qq/Qo=0.	25.6	25.602	0	**B08/3**	
			Grassed						10																											
5%	**B08/2**	0.1061	Paved	80	6				6	0.041	B08/3	0.042	2.03	0.05	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.042	0	2.43	0.07	0.281	29.375	0.5	450	23.691	23.544	24.764	24.618	1.76	0.7	A1-5 [A2-4;	Qq/Qo=0.	24.83	25.433	0.6	**B08/2**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**B08/2**	0.1061	Paved	<	-	-	as above	-	6	0.057	B08/3	0.179	3.79	0.11			0.191	0.132	3.92	0.12	0.321						25.317	25.138	2.02	0.94	A1-5 [A2-4;	Qq/Qo=0.	25.43	25.433	0.01	**B08/2**	
			Grassed						10																											
5%	**B08/1**	0.1595	Paved	80	6				6	0.062	B08/2	0.062	2.43	0.07	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.062	0.006	1.65	0.03	0.335	15.923	0.5	450	23.494	23.414	24.499	24.404	2.1	1.03	9 [A2-6 & A	Qq/Qo=0.	24.62	25.138	0.52	**B08/1**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**B08/1**	0.1595	Paved	<	-	-	as above	-	6	0.085	B08/2	0.195	3.92	0.12			0.217	0.37	6.87	0.14	0.39						25.138	25.154	2.45	1.12	9 [A2-6 & A	Qq/Qo=0.	25.14	25.138	0	**B08/1**	
			Grassed						10																											
5%	**B08/6**	0.1511	Paved	80	6				6	0.059	B08A/1	0.016	0.96	0.05	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 2.4 m lintel	0.061	0	0	0	0.059	12.354	1.71	375	24.555	24.344	25.37	25.358	0.54	3.8	A1-4 [A2-3;	2, Vo2/(2g	25.43	25.615	0.19	**B08/6**	
			Supp.	0	0																															Pipe flow velocity = 0.86 m/s in the 1EY storm event
			Grassed	20	10				10																											
1%	**B08/6**	0.1511	Paved	<	-	-	as above	-	6	0.08	B08A/1	0.032	1.41	0.06			0.093	0.071	8.79	0.01	0.089						25.773	25.772	0.8	2.73	A1-4 [A2-3;	2, Vo2/(2g	25.78	25.615	0	**B08/6**	
			Grassed						10																											
5%	**B08/5**	0.1004	Paved	80	6				6	0.039	B08/6	0	0	0	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 2.4 m lintel	0.039	0	0.36	0.01	0.097	16.702	1.17	375	24.293	24.097	25.188	25.143	0.88	4.25	A1-4 [A2-3;	4, Vo2/(2g	25.36	25.65	0.29	**B08/5**	
			Supp.	0	0																															
			Grassed	20	10				10																											
1%	**B08/5**	0.1004	Paved	<	-	-	as above	-	6	0.053	B08/6	0.071	8.79	0.01			0.124	0.116	3.18	0.09	0.118						25.768	25.765	1.07	2.56	A1-4 [A2-3;	9, Vo2/(2g	25.77	25.65	0	**B08/5**	
			Grassed						10																											
5%	**B09/2**	0.3762	Paved	15	6				6	0.106	B01/13	0.032	1.37	0.06	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.119	0	0	0	0.116	12.007	0.5	375	24.72	24.66	25.194	25.15	1.05	4.88	A1-4 [A2-3;	3, Vo2/(2g	25.46	26.13	0.67	**B09/2**	
			Supp.	0	0						B09A/2	0.038	1.92	0.05																							
			Grassed	85	10				10																											
1%	**B09/2**	0.3762	Paved	<	-	-	as above	-	6	0.152	B01/13	0.122	2.6	0.12			0.465	0.331	12.44	0.04	0.187						26.157	26.134	1.7	2.14	A1-4 [A2-3;	8, Vo2/(2g	26.22	26.13	0	**B09/2**	
			Grassed						10		B09A/2	0.256	4.83	0.13																							

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Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

lendlease

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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: 5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA
SHEET 8 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	AS SHOWN	A1

Drawing Number: CV-CARDNO-S02-2508

Revision: 3

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 17 August 2021 5:38 PM BY: JOSHUA BEZZINA

LOCATION AND LAND-USE					TIME AND RUNOFF					INLET DESIGN					PIPE SYSTEM DESIGN										PIT RESULTS						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	31a	31b	32	33	34	35	36
Design AEP	Pit Name	Sub-Catchment Area (ha)	Land-Use	Percent-age	Constant Flow Time (minutes)	Kinematic Wave or Friends Formula Parameters Length (m)	Slope (%)	Roughness n	Total Time tc (minutes)	Peak Sub-Catchment Flowrate (m^3/s) *worst storm	Origin of Approach Flows	Overflows Flowrate (m^3/s)	Approaching Flow Width (m)	Pit Depth x Velocity (m^2/s)	Inlet Family	Inlet Size	Total Approach Flow (m^3/s)	Overflow Bypass Flow (m^3/s)	Leaving Flow Width (m)	Pit Depth x Velocity (m^2/s)	Peak Flow in Pipe (m^3/s)	Reach Length (m)	Pipe Slope (%)	Pipe Diameter (mm)	U/S Pipe Invert Level (m)	D/S Pipe Invert Level (m)	U/S HGL in Pipe (m)	D/S HGL in Pipe (m)	Pipe Flow Velocity (m/s)	Pressure Change Coeff. Ku	QUDM Chart No. 2008 [2013]	QUDM Chart Ratios	Water Surface Elevation (m)	Grate Surface Level (m)	Free-board (m)	Pit Name	Remarks
5%	**B09/1**	0.0587	Paved	90	6				6	0.024	B09/2	0	0	0	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 2.4 m lintel	0.024	0	0	0	0.407	13.466	0.52	450	24.61	24.54	25.01	24.958	1.36	1.89	H-O'L	>=0.05, S/E	25.15	26.2	1.05	**B09/1**	
			Supp.	0	0						B09A/1	0.017	1.3	0.04																							
			Grassed	10	10				10																												
1%	**B09/1**	0.0587	Paved	<	-	-	as above	-	- >	6	0.033	B09/2	0.331	12.44	0.04			0.37	0.233	4.51	0.13	0.502						25.988	25.938	1.58	2.09	H-O'L	>=0.19, S/E	26.13	26.2	0.07	**B09/1**	
			Grassed						10		B09A/1	0.024	1.58	0.04																							
5%	**B10/1**	0.1393	Paved	95	6				6	0.058	B11/1	0.063	2.43	0.07	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.067	0.007	2.5	0.07	0.056	14.531	0.99	375	25.574	25.43	25.747	25.572	1.47	5.93	A1-4 [A2-30, Vo2/(2gI		25.8	26.59	0.79	**B10/1**	
			Supp.	0	0																																
			Grassed	5	10				10																												
1%	**B10/1**	0.1393	Paved	<	-	-	as above	-	- >	6	0.08	B11/1	0.095	2.9	0.08			0.102	0.022	2.96	0.08	0.08						26.376	26.362	0.72	3.87	A1-4 [A2-31, Vo2/(2gI		26.43	26.59	0.16	**B10/1**	
			Grassed						10																												
5%	**B11/1**	0.1637	Paved	95	6				6	0.068	B12/1	0.068	2.35	0.07	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.069	0.009	2.43	0.07	0.06	15.379	1	375	26.277	26.123	26.454	26.269	1.5	5.93	A1-4 [A2-30, Vo2/(2gI		26.51	27.376	0.87	**B11/1**	
			Supp.	0	0																																
			Grassed	5	10				10																												
1%	**B11/1**	0.1637	Paved	<	-	-	as above	-	- >	6	0.094	B12/1	0.096	2.73	0.09			0.104	0.022	2.9	0.08	0.075						27.016	26.999	0.68	4.11	A1-4 [A2-30, Vo2/(2gI		27.08	27.376	0.29	**B11/1**	
			Grassed						10																												
5%	**B12/1**	0.099	Paved	95	6				6	0.041	B13/1	0.045	1.39	0.09	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.046	0.001	2.35	0.07	0.044	15.88	0.99	375	27.633	27.475	27.784	27.597	1.41	5.93	A1-4 [A2-30, Vo2/(2gI		27.82	28.675	0.85	**B12/1**	
			Supp.	0	0																																
			Grassed	5	10				10																												
1%	**B12/1**	0.099	Paved	<	-	-	as above	-	- >	6	0.057	B13/1	0.073	1.79	0.11			0.079	0.01	2.73	0.09	0.065						28.178	28.146	0.59	4.98	A1-4 [A2-35, Vo2/(2gI		28.33	28.675	0.34	**B12/1**	
			Grassed						10																												
5%	**B13/1**	0.1248	Paved	95	6				6	0.052	B14/1	0.059	1.65	0.1	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.062	0.005	1.39	0.09	0.054	15.072	1	375	29.696	29.545	29.865	29.683	1.47	5.93	A1-4 [A2-30, Vo2/(2gI		29.92	31.158	1.24	**B13/1**	
			Supp.	0	0																																
			Grassed	5	10				10																												
1%	**B13/1**	0.1248	Paved	<	-	-	as above	-	- >	6	0.072	B14/1	0.094	2.07	0.12			0.098	0.022	1.79	0.11	0.072						29.897	29.87	1.2	5.93	A1-4 [A2-30, Vo2/(2gI		29.99	31.158	1.17	**B13/1**	
			Grassed						10																												
5%	**B14/1**	0.1754	Paved	95	6				6	0.073					NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.073	0.01	1.65	0.1	0.062	15.192	1	375	31.872	31.72	32.054	31.869	1.53	5.93	A1-4 [A2-30, Vo2/(2gI		32.12	33.04	0.92	**B14/1**	
			Supp.	0	0																																
			Grassed	5	10				10																												
1%	**B14/1**	0.1754	Paved	<	-	-	as above	-	- >	6	0.101						0.101	0.026	2.07	0.12	0.075						32.491	32.475	0.68	4.63	A1-4 [A2-36, Vo2/(2gI		32.56	33.04	0.48	**B14/1**	
			Grassed						10																												
5%	**B09A/5**	0.2242	Paved	15	6				6	0.063					NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.063	0.006	1.79	0.05	0.057	15.843	0.5	375	25.533	25.454	26.484	26.47	0.51	3.33	A1-4 [A2-35, Vo2/(2gI		26.53	26.96083	0.43	**B09A/5**	Pipe flow velocity = 0.64 m/s in the 1EY storm event
			Supp.	0	0																																
			Grassed	85	10				10																												
1%	**B09A/5**	0.2242	Paved	<	-	-	as above	-	- >	6	0.091						0.091	0.031	2.37	0.07	0.063						26.906	26.891	0.57	2.49	A1-4 [A2-37, Vo2/(2gI		26.94	26.96083	0.02	**B09A/5**	
			Grassed						10																												
5%	**B09A/4**	0.2363	Paved	15	6				6	0.067					NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.067	0.008	1.54	0.04	0.116	34.102	0.5	375	25.404	25.233	26.283	26.157	1.05	3.35	A1-4 [A2-33, Vo2/(2gI		26.47	26.908	0.44	**B09A/4**	
			Supp.	0	0																																
			Grassed	85	10				10																												
1%	**B09A/4**	0.2363	Paved	<	-	-	as above	-	- >	6	0.096						0.096	0.035	2.33	0.06	0.129						26.744	26.607	1.17	2.42	A1-4 [A2-36, Vo2/(2gI		26.89	26.908	0.02	**B09A/4**	
			Grassed						10																												
5%	**B09A/3**	0.2339	Paved	15	6				6	0.066	B09A/4	0.024	1.54	0.04	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.074	0.01	1.64	0.04	0.178	34.202	0.5	450	25.183	25.012	26.108	25.993	1.12	0.77	A1-5 [A2-4, Qg/Qo=0.		26.16	26.631	0.47	**B09A/3**	
			Supp.	0	0																																
			Grassed	85	10				10																												
1%	**B09A/3**	0.2339	Paved	<	-	-	as above	-	- >	6	0.095	B09A/4	0.058	2.33	0.06			0.13	0.044	2.5	0.07	0.205						26.546	26.397	1.29	0.73	A1-5 [A2-4, Qg/Qo=0.		26.61	26.631	0.02	**B09A/3**	
			Grassed						10																												
5%	**B09A/2**	0.2369	Paved	15	6				6	0.067	B09A/3	0.027	1.64	0.04	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.077	0.012	1.92	0.05	0.243	12.005	0.5	450	24.962	24.902	25.777	25.703	1.53	1.83	I [A2-28 & ₄, Qg/Qo=0.		25.99	26.397	0.4	**B09A/2**	
			Supp.	0	0																																
			Grassed	85	10				10																												
1%	**B09A/2**	0.2369	Paved	<	-	-	as above	-	- >	6	0.096	B09A/3	0.067	2.5	0.07			0.14	0.22	4.83	0.13	0.273						26.359	26.344	1.72	1.56	I [A2-28 & ₄, Qg/Qo=0.		26.4	26.397	0	**B09A/2**	
			Grassed						10																												
5%	**B09A/1**	0.0774	Paved	90	6				6	0.032	B09A/5	0.035	1.79	0.05	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.038	0	1.3	0.04	0.273	38.279	0.5	450	24.852	24.66	25.433	25.15	1.71	1.9	I [A2-28 & ₄, Qg/Qo=0.		25.7	26.4	0.7	**B09A/1**	
			Supp.	0	2																																
			Grassed	10	10				10																												
1%	**B09A/1**	0.0774	Paved	<	-	-	as above	-	- >	6	0.044	B09A/5	0.064	2.37	0.07			0.075	0.006	1.58	0.04	0.319						26.251	26.134	2	1.59	I [A2-28 & ₄, Qg/Qo=0.		26.34	26.4	0.06	**B09A/1**	
			Grassed						10																												
5%	**B03/1**	0.0896	Paved	95	6				6	0.037	B04/1	0.037	1.62	0.06	NSW Dept. of Housing RM10 Inlet, 3% crossfall, all grades	RM10 1.8 m lintel	0.037	0	1.56	0.06	0.038	14.528	1	375	23.379	23.234	23.651	23.648	0.44	5.93	A1-4 [A2-30, Vo2/(2gI		23.66	24.35385	0.69	**B03/1**	
			Supp.	0	0																																
			Grassed	5	10				10																												
1%	**B03/1**	0.0896	Paved	<	-	-	as above	-	- >	6	0.052	B04/1	0.37	4.87	0.19			0.399	0.254	3.77	0.17	0.119						24.161	24.114	1.07	3.63	A1-4 [A2-31, Vo2/(2gI		24.34	24.35385	0.02	**B03/1**	Pipe flow velocity = 1.17 m/s in the 1EY storm event
			Grassed						10																												
5%	**A01/14**	1.3231	Paved	5	0	260	1.6	0.018	9.45	0.122							0.122	0	0	0	0.12	59.411	0.5	I.8W x 0.6H	25.2	24.903	25.323	25.056	0.54	0.5			25.32	26	0.68	**A01/14**	Low flow velocity due to large flow area required to control upstream 100 Year flood level
			Supp.	0	0	-1	-1	-1																													
			Grassed	95	0	660	4.75	0.15	42.54																												
1%	**A01/14**	1.3231	Paved	<	-	-	as above	-	- >	8.87	0.208						0.208	0	0	0	0.206						25.376	25.114	0.65	0.5			25.38	26	0.62	**A01/14**	
			Grassed						39.93																												
5%	**A01/13**	No Area - Junction Pit	Paved												Grated Pits	1200 x 1200	0				0.118	58.482	0.5	825	24.873	24.581	25.056	24.752	1.47	0	I [A2-28 & ₄, Qg/Qo=0.		25.06	27.162	2.11	**A01/13**	
			Supp.																																		
			Grassed																																		
1%	**A01/13**	No Area - Junction Pit	Paved	<	-	-	as above	-	- >								0				0.204						25.114	24.817	1.62	0	I [A2-28 & ₄, Qg/Qo=0.		25.11	27.162	2.05	**A01/13**	
			Grassed																																		
5%	**A01/12**	No Area - Junction Pit	Paved												Grated Pits	1200 x 1200	0				0.118	26.203	0.5	825	24.551	24.42	24.739	24.591	1.47	0.2	A1-5 [A2-4, Qg/Qo=0.		24.74	26.753	2.01	**A01/12**	
			Supp.																																		
			Grassed																																		
1%	**A01/12**	No Area - Junction Pit	Paved	<	-	-	as above	-	- >								0				0.204						24.801	24.656	1.62	0.2	A1-5 [A2-4, Qg/Qo=0.		24.8	26.753	1.95	**A01/12**	
			Grassed																																		
5%	**A01/11**	No Area - Junction Pit	Paved												Grated Pits	1200 x 1200	0				0.118	28.639	0.5	825	23.477	23.333	23.933	23.918	0.39	5.93	A1-4 [A2-30, Vo2/(2gI		23.96	26.498	2.54	**A01/11**	Low flow velocity due to combination of large flow area and head loss through drop pit
			Supp.																																		
			Grassed																																		
1%	**A01/11**	No Area - Junction Pit	Paved	<	-	-	as above	-	- >								0				0.205						24.351	24.346	0.38	5.81	A1-4 [A2-31, Vo2/(2gI		24.39	26.498	2.1	**A01/11**	
			Grassed																																		
5%	**A06/1**	4.5234	Paved	7	2	85	0.7	0.015	7.55	0.57					Grated Pits	900 x 900	0.57				0.569	2.728	0.99	750	23.391	23.364	23.923	23.918	1.7	5.81	A1-4 [A2-30, Vo2/(2gI		24.39	24.568	0.18	**A06/1**	
			Supp.	0	0	-1	-1	-1																													
			Grassed	93	2	133	0.7	0.15	30.89																												
1%	**A06/1**	4.5234	Paved	<	-	-	as above	-	- >	7.45	0.951						0.951				0.694						24.349	24.346	1.57	4.73	A1-4 [A2-33, Vo2/(2gI		24.56	24.568	0	**A06/1**	
			Grassed						30.39																												
5%	**A01/10**	No Area - Junction Pit	Paved												Grated Pits	1200 x 1200	0				0.659	54.101	0.48	825	23.308	23.049	23.795	23.609	2.01	1.73	I [A2-37 & ₄=1.50, (Qu		23.92	26.376	2.46	**A01/10**	
			Supp.																																		
			Grassed																																		
1%	**A01/10**	No Area - Junction Pit	Paved	<	-	-	as above	-	- >								0				0.797						24.234	24.151	1.49	1.69	I [A2-37 & ₄=1.50, (Qu		24.35	26.376	2.03	**A01/10**	
			Grassed																																		
5%	**A01/10A**	No Area - Junction Pit	Paved												Grated Pits	1200 x 1200	0				0.65	53.771	0.48	825	23.024	22.764	23.601	23.49	1.63	0.2	A1-5 [A2-4, Qg/Qo=0.		23.61	25.99	2.38	**A01/10A**	
			Supp.																																		
			Grassed																																		

XREFs: XR-80219053-001-1AB-CC-CI-LOGO
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Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: 5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA
SHEET 9 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	AS SHOWN	A1

Drawing Number: CV-CARDNO-S02-2509

Revision: 3

Document Set ID: 9948076
Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 17 August 2021 5:38 PM BY: JOSHUA BEZZINA

LOCATION AND LAND-USE					TIME AND RUNOFF					INLET DESIGN					PIPE SYSTEM DESIGN									PIT RESULTS								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	31a	31b	32	33	34	35	36
Design AEP	Pit Name	Sub-Catchment Area (ha)	Land-Use	Percent-age	Constant Flow Time (minutes)	Kinematic Wave or Friends Formula Parameters Length (m)	Slope (%)	Roughness n	Total Time tc (minutes)	Peak Sub-Catchment Flowrate (m^3/s) *worst storm	Origin of Approach Flows	Overflows Approaching Pit Flowrate (m^3/s)	Flow Width (m)	Depth x Velocity (m^2/s)	Inlet Family	Inlet Size	Total Approach Flow (m^3/s)	Overflow Leaving Pit Bypass Flow (m^3/s)	Flow Width (m)	Depth x Velocity (m^2/s)	Peak Flow in Pipe (m^3/s)	Reach Length (m)	Pipe Slope (%)	Pipe Diameter (mm)	U/S Pipe Invert Level (m)	D/S Pipe Invert Level (m)	U/S HGL in Pipe (m)	D/S HGL in Pipe (m)	Pipe Flow Velocity (m/s)	Pressure Change Coeff. Ku	QUDM Chart No. 2008 [2013	QUDM Chart Ratios	Water Surface Elevation (m)	Grate Surface Level (m)	Free-board (m)	Pit Name	Remarks
1%	A01/10A	No Area - Junction Pit	Paved Grassed		< ------	-------	as above	-------	------ >								0				0.801						24.138	24.056	1.5	0.2	A1-5 [A2-4;	Qg/Qo=0.	24.15	25.99	1.84	A01/10A	
5%	A01/9	No Area - Junction Pit	Paved Supp. Grassed												Grated Pits	1200 x 1200	0				0.671	42.305	0.5	825	22.739	22.527	23.479	23.412	1.33	0.2	A1-5 [A2-4;	Qg/Qo=0.	23.49	25.615	2.12	A01/9	
1%	A01/9	No Area - Junction Pit	Paved Grassed		< ------	-------	as above	-------	------ >								0				0.806						24.041	23.97	1.51	0.2	A1-5 [A2-4;	Qg/Qo=0.	24.06	25.615	1.56	A01/9	
5%	A01/8	No Area - Junction Pit	Paved Supp. Grassed												Grated Pits	1200 x 1200	0				0.685	34.84	0.5	825	22.497	22.323	23.398	23.342	1.28	0.2	A1-5 [A2-4;	Qg/Qo=0.	23.41	25.313	1.9	A01/8	
1%	A01/8	No Area - Junction Pit	Paved Grassed		< ------	-------	as above	-------	------ >								0				0.807						23.957	23.905	1.51	0.2	A1-5 [A2-4;	Qg/Qo=0.	23.97	25.313	1.34	A01/8	
5%	A01/7	No Area - Junction Pit	Paved Supp. Grassed												Grated Pits	1200 x 1200	0				0.687	32.001	0.5	825	22.293	22.133	23.328	23.276	1.29	0.2	A1-5 [A2-4;	Qg/Qo=0.	23.34	25.07	1.73	A01/7	
1%	A01/7	No Area - Junction Pit	Paved Grassed		< ------	-------	as above	-------	------ >								0				0.808						23.892	23.844	1.51	0.2	A1-5 [A2-4;	Qg/Qo=0.	23.9	25.07	1.17	A01/7	
5%	A01/6	No Area - Junction Pit	Paved Supp. Grassed												Grated Pits	1200 x 1200	0				0.688	43.21	0.5	825	22.103	21.887	23.262	23.193	1.29	0.2	A1-5 [A2-4;	Qg/Qo=0.	23.28	24.865	1.59	A01/6	
1%	A01/6	No Area - Junction Pit	Paved Grassed		< ------	-------	as above	-------	------ >								0				0.809						23.831	23.765	1.51	0.2	A1-5 [A2-4;	Qg/Qo=0.	23.84	24.865	1.02	A01/6	
5%	A01/5	No Area - Junction Pit	Paved Supp. Grassed												Grated Pits	1200 x 1200	0				0.689	74.642	0.53	525	21.857	21.46	23.128	22.81	1.59	0.64	A1-5 [A2-4;	Qg/Qo=0.	23.19	24.56	1.37	A01/5	
1%	A01/5	No Area - Junction Pit	Paved Grassed		< ------	-------	as above	-------	------ >								0				0.81						23.701	23.387	1.87	0.64	A1-5 [A2-4;	Qg/Qo=0.	23.76	24.56	0.8	A01/5	

XREFs: XR-80219053-001-IAB-CC-CI-LOGO
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Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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Drawn	WP	Date 30/07/2021
Checked	MZ	Date 30/07/2021
Designed	DAC	Date 30/07/2021
Verified	MZ	Date 30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: 5 YEAR AND 100 YEAR STORMWATER DRAINAGE DATA
SHEET 10 OF 10

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

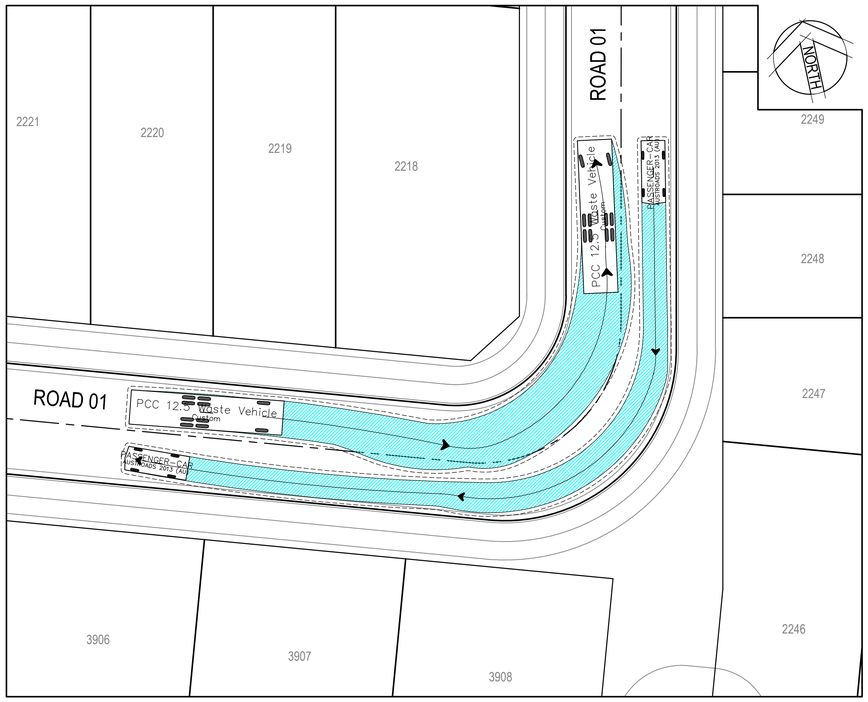
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Drawing Number: CV-CARDNO-S02-2510

Revision: 3

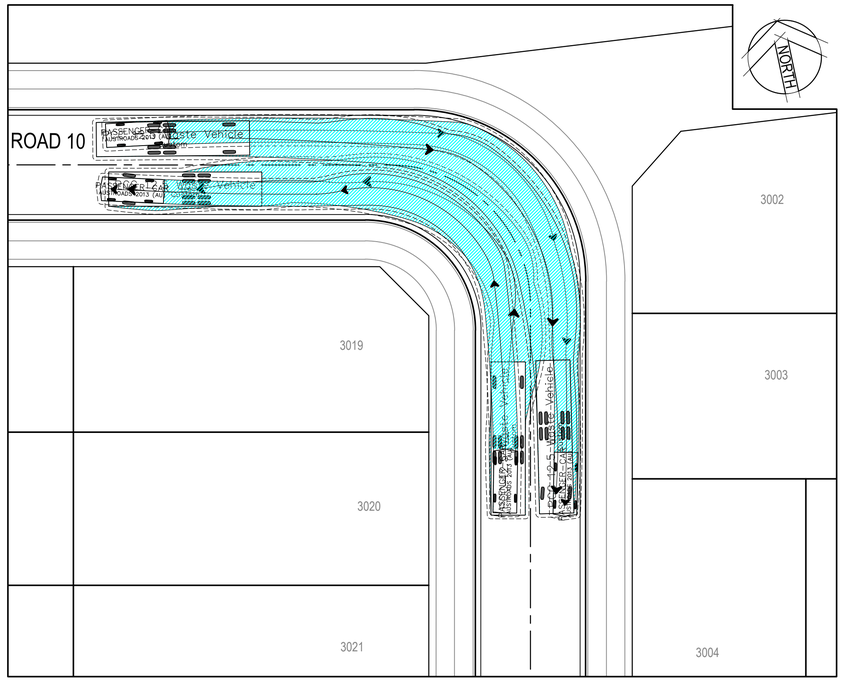
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Version: 1, Version Date: 16/03/2022

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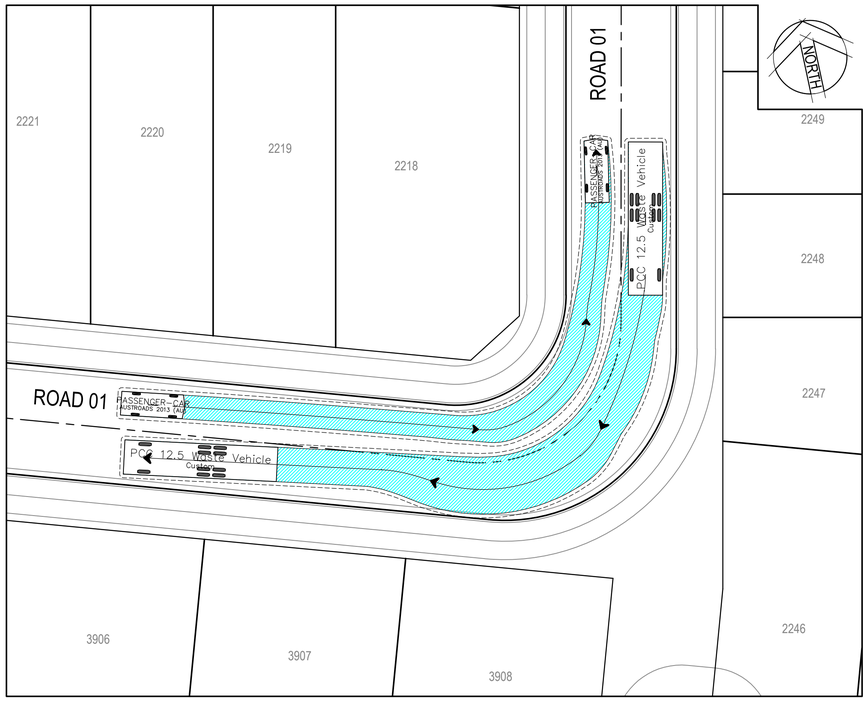
ROAD 01 VEHICLE CLEARANCE

SCALE 1:250



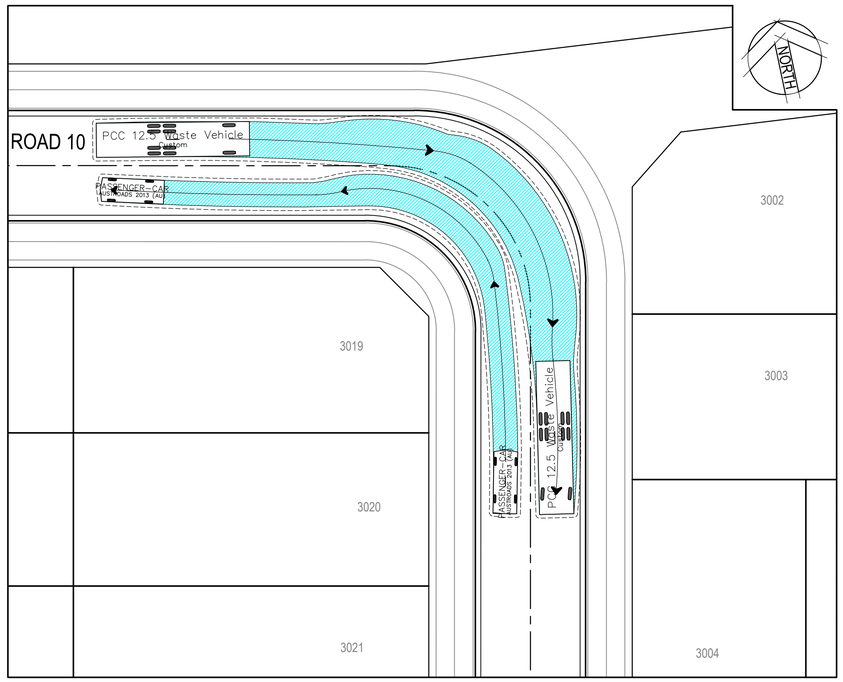
ROAD 10 NORTH VEHICLE CLEARANCE

SCALE 1:250



ROAD 01 VEHICLE CLEARANCE

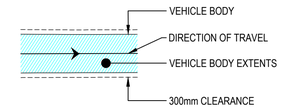
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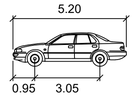


ROAD 10 NORTH VEHICLE CLEARANCE

SCALE 1:250

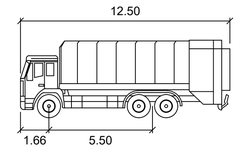
LEGEND:





PASSENGER-CAR

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.6



PCC 12.5 Waste Vehicle

	meters
Width	: 2.80
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 26.1

Rev.	Date	Description	Des.	Verif.	Appd.
3	18/08/2021	SUBDIVISION WORKS CERTIFICATE	DAC	MZ	MZ
2	6/08/2021	ISSUE FOR APPROVAL	DAC	MZ	
1	30/07/2021	ISSUE FOR DRAFT REVIEW	DAC	MZ	

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SCALE 1:250 @A1

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		Date
Drawn	WP	30/07/2021
Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: TURN PATH PLANS
SHEET 1 OF 2

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

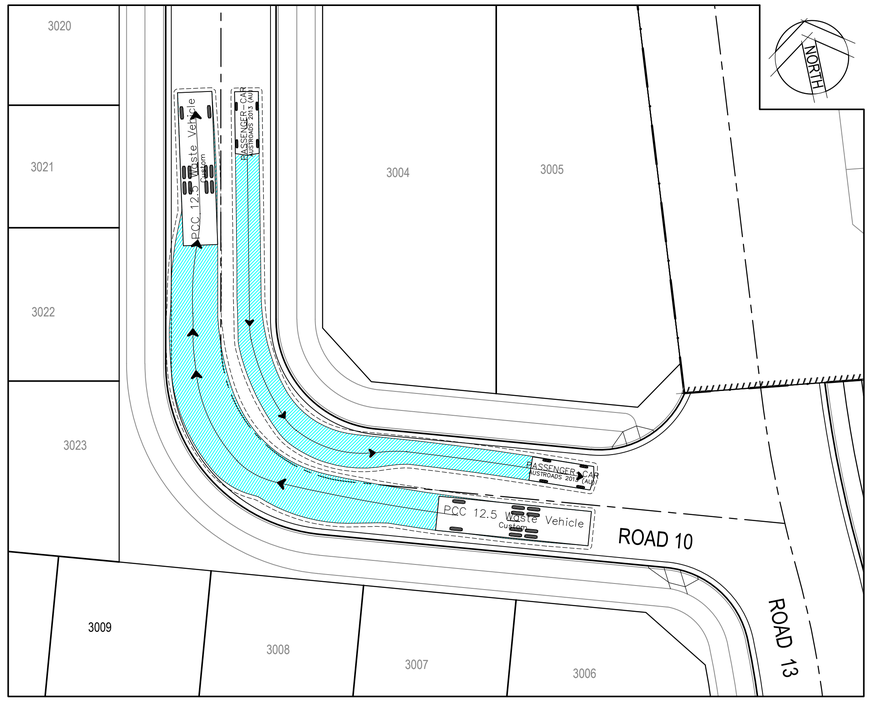
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Drawing Number: CV-CARDNO-S02-3001
Revision: 3

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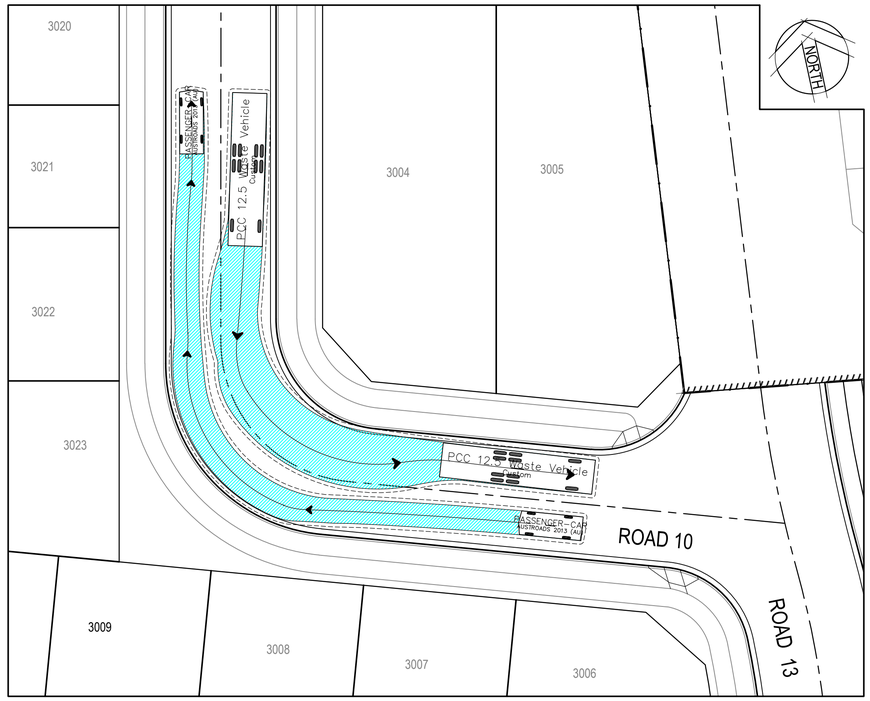
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Version: 1, Version Date: 16/03/2022

DATE PLOTTED: 17 August 2021 5:40 PM BY : JOSHUA BEZZINA



ROAD 10 SOUTH VEHICLE CLEARANCE

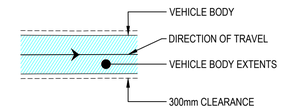
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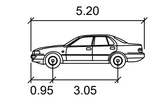


ROAD 10 SOUTH VEHICLE CLEARANCE

SCALE 1:250

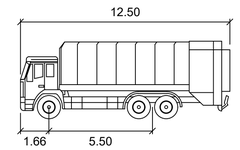
LEGEND:





PASSENGER-CAR

	meters
Width	: 1.94
Track	: 1.84
Lock to Lock Time	: 6.0
Steering Angle	: 33.6



PCC 12.5 Waste Vehicle

	meters
Width	: 2.80
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 26.1

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lendlease

0 5 10 15 20 25m

SCALE 1:250 @A1

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		Date
Drawn	WP	30/07/2021
Checked	MZ	30/07/2021
Designed	DAC	30/07/2021
Verified	MZ	30/07/2021
Approved	MZ	30/07/2021

Client: LENDLEASE

Project: KINGS CENTRAL
STAGE 2-4 CIVIL WORKS
SUBDIVISION WORKS CERTIFICATE

Title: TURN PATH PLANS
SHEET 2 OF 2

Status: FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION PURPOSES

Datum	Date	Scale	Size
AHD	Jul' 2021	1:250	A1

Drawing Number: CV-CARDNO-S02-3002

Revision: 3

CAD File: \\cardno.com\global\AUNSW\Directory\Structure\Projects\82\FY19\053_Chapman St-Werrington\Drawings\Build\001 CIVIL WORKS\SCC\002 Stage 2-4\CV-CARDNO-S02-3001-3002-DWG(1).dwg

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