FOR EARTHWORKS DETAILS REFER TO DWG No. M2584E_3 EW01 – EW04

FOR NOTES REFER TO DWG No. M2584E_3 R02

THE CONTRACTOR IS TO NOTIFY THE SUPERVISING ENGINEER OF ANY DISCREPENCIES BETWEEN THE DESIGN PLANS AND THE CONDITIONS ON SITE PRIOR TO COMMENCEMENT OF ANY WORK.

REFER TO LANDSCAPE PLANS FOR FINAL TRIM DETAILS

PRIOR TO COMMENCEMENT OF WORKS REFER TO VEGETATION MANAGEMENT PLAN.

Fire Ant Movement Controls

To prevent the spread of fire ants, the Queensland Government has implemented controls that apply to individuals and commercial operators, to restrict the movement of materials that could carry fire ants including soil, turf, potted plants, mulch, baled hay or straw, animal manures, mining or quarry products.

Penalties apply for non-compliance with the movement controls. if you are unsure of your obligations under the Biosecurity Act 2014 contact the relevant Queensland State Government Department.

LEGEND :

- EXISTING CONTOURS
- EXISTING KERB AND CHANNEL
- EXISTING STORMWATER (SW)
- EXISTING SEWERAGE (S)
- EXISTING WATER (W)
- EXISTING U/G ELECTRICAL (E)
- EXISTING TELSTRA (T)
- PROPOSED KERB AND CHANNEL
- FUTURE KERB AND CHANNEL
- PROPOSED RETAINING WALL
- DENOTES TRANSITION IN K&C REFER INTERSECTION DETAILS
- SINGLE PLATE STREET NAME SIGN
- HAZARD MARKER D4-5
- THRESHOLD TREATMENT
- BOLLARDS @ 1.5m CENTRES
- EASEMENT

TREE LEGEND

TREES TO BE RETAINED AND PROTECTED

TREES TO BE RETAINED AND REQUIRES THE SUPERVISION OF ANY EXCAVATION OR SERVICES WORKS WITHIN THE HATCHED PROTECTION ZONE BY AN ARBORIST ON SITE.

TPZ
Tree Protection Zone
All vegetation to be protected in accordance with AS4970 - Protection of Trees on Development Sites & any conditions of approval.

EXISTING STAGE 1

EXISTING STAGE 2

FUTURE STAGE 4

FUTURE STAGE 5

ROAD 3 BRADMAN STREET

ROAD 4 BRADMAN STREET

ROAD 3 FLINDERS STREET

1.5m WIDE CONCRETE FOOTPATH TO MATCH NEATLY TO EXISTING CONCRETE PATH

MATCH NEATLY TO EXISTING TYPE 'M3' KERB AND CHANNEL

TEMPORARY TURN AROUND TO BE REMOVED

TYPE 'M3' KERB AND CHANNEL

1.5m WIDE CONCRETE PATHWAY

KERB RAMP

TYPE 'B1 300' KERB AND CHANNEL

MATCH NEATLY TO EXISTING TYPE 'B1 300' KERB AND CHANNEL

START OF CONSTRUCTION 705.958

LIMIT OF CONSTRUCTION 837.814K

LIMIT OF CONSTRUCTION 201.212

902 Drainage Reserve

RP228482

R20.0

R9.0

TWO COAT SPRAY SEAL TEMPORARY TURN AROUND

PROVIDE 3 STRAND STAR PICKET 'TIGER' MESH FENCE AROUND EXTENTS OF TEMPORARY TURNAROUND AND ASSOCIATED DRAIN

125mm THICK 3.0m WIDE TYPE A VEHICLE CROSSING SLAB AS PER IPWEA DWY RS-049 & RS-050

NOTE: ALL TEMPORARY TURNAROUNDS AND OUTLETS WITHIN THE BALANCE LOT WILL BE COVERED UNDER EASEMENTS OF SUITABLE SIZE FIT FOR THE PURPOSE.

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PLANNERS
URBAN DESIGNERS
SURVEYORS
ENGINEERS
LANDSCAPE ARCHITECTS

NORTH:

SCALE: 1:500 A1 — THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE — 0 5 10 15 20 25 (A1) 1:500 50 Metres (A3) 1:1000

DO NOT SCALE FROM THIS DRAWING - USE ONLY DIMENSIONS PROVIDED - IF IN DOUBT PLEASE ENQUIRE

APPROVED — FOR AND ON BEHALF OF JFP URBAN CONSULTANTS PTY LTD

T.McKINNEY RPEQ 5087 (✓) | A.FRASER RPEQ 5691 | J.PAPPAS RPEQ 6086 | S.MARSH RPEQ 8068 | H.WATSON RPEQ 6200

DESIGNED	CDV
DRAWN	WN
CHECKED	PNH
DATUM: AHD	

ISSUE:

ISSUE	DETAILS	DATE	INIT
B	RFI AMENDMENTS	28/10/21	CDV
A	ISSUE FOR OPERATIONAL WORKS APPROVAL	16/09/21	CDV

TITLE: ROADWORKS LAYOUT PLAN

DFC (PROJECT MANAGEMENT PTY LTD)

'ARCHERS WAY' ESTATE - STAGE 3
AT 22-80 CASH STREET, D'AGUILAR

DENNIS FAMILY CORPORATION

DETAILS:
JOB NO: M2584E_3
PLAN: R01 ISSUE: B
MORETON BAY REGIONAL COUNCIL REF: DA/38032/2019/V3VR
FILE NAME: ROADWORKS.DWG

15/11/2021 N:\M2584\STAGE_3\DESIGN\WORKING\DRAWINGS\ROADWORKS

ROADWORKS NOTES

1. ALL DIMENSIONS ON THE DRAWINGS ARE IN METRES UNLESS SHOWN OTHERWISE.
2. ALL TURNOUT RADII ARE TO THE LIP OF THE CHANNEL.
3. LENGTH AND LOCATION OF MITRE DRAINS SHALL BE DETERMINED ON SITE BY THE SUPERINTENDENT.
4. ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH CURRENT MORETON BAY REGIONAL COUNCIL STANDARDS AND STANDARD DRAWINGS UNLESS DIRECTED OTHERWISE. (IPWEAQ STDS)
5. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING SERVICES WITH ALL RELEVANT AUTHORITIES BEFORE COMMENCING CONSTRUCTION. ANY COSTS ASSOCIATED WITH REPAIRING DAMAGE TO EXISTING SERVICES SHALL BE PAID FOR BY THE CONTRACTOR.
6. THE CONTRACTOR SHALL ERECT TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE RELEVANT AUTHORITY SPECIFICATIONS.
7. SUB-BASE GRAVEL COMPACTED TO 95% AS1289 (MODIFIED) AND OF MINIMUM THICKNESS 75mm SHALL EXTEND UNDER THE KERB AND CHANNEL TO 150mm (MIN.) BEHIND THE KERB.
8. NBN TO RECEIVE 3 WEEKS NOTICE BEFORE INSTALLATION OF CONDUITS.
9. THE CONTRACTOR SHALL VERIFY OFFSET PEG LOCATIONS AND BENCH MARK LEVELS AND ADVISE THE SUPERINTENDENT OF ANY DISCREPANCY BEFORE THE COMMENCEMENT OF CONSTRUCTION.
10. KERB AND CHANNEL TO BE CONSTRUCTED IN ACCORDANCE WITH MBRC STD. DWG. RS-080.
11. SIDE DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MBRC STD DRAWINGS RS-140 AND 142.
    a. TRIMMING AND COMPACTION OF SUBGRADE IS TO BE COMPLETED AND APPROVED BEFORE SUBSOIL DRAINS AND SERVICE CONDUITS ARE CONSTRUCTED. THE TRENCHES SHALL THEN BE EXCAVATED, AND THE EXCAVATED MATERIAL PLACED ON THE FOOTPATH AND NOT THE SUBGRADE.
    b. WHERE SUBSOIL DRAINS PASS UNDER SERVICE CONDUITS, THE SIDE DRAINS ARE TO BE DEEPENED AND GRADED OUT TO A NORMAL DEPTH AT A MINIMUM GRADE OF 1:250.
    c. IN DISPERSIVE, SOLUBLE OR FINE GRAINED SOILS, THE DEVELOPER'S REPRESENTATIVE IS TO EVALUATE WHETHER GEOFABRIC WRAPPED SUBSOIL DRAINS ARE REQUIRED. WHERE GEOFABRIC WRAPPED SUBSOIL DRAINS ARE PROPOSED THE DEVELOPER'S REPRESENTATIVE IS TO PROVIDE DETAILS FOR APPROVAL BY COUNCIL'S NOMINATED REPRESENTATIVE.
    d. ROAD SUBSOIL DRAINAGE MUST BE 'DAYLIGHTED' AND DISCHARGED TO AN APPROVED LEGAL POINT OF DISCHARGE. CAPS ARE TO BE PROVIDED TO UPSTREAM ENDS OF SUBSOIL DRAINS.
12. EACH PAVEMENT COURSE SHOULD NOT BE COMMENCED UNTIL THE PREVIOUS COURSE HAS BEEN INSPECTED AND APPROVED AND CERTIFIED BY THE CONSULTANT WITH RESPECT TO COMPACTION, FINISHED LEVELS AND TEXTURE OF FINISH. COMPACTION TESTS OF EACH LAYER ARE REQUIRED BEFORE PROCEEDING TO THE NEXT LAYER. ALL TEST RESULTS ARE TO BE PROVIDED TO COUNCIL'S NOMINATED REPRESENTATIVE PRIOR TO SURFACING.
13. SUBGRADE IS TO BE TRIMMED TO AN EVEN SURFACE FREE FROM LOOSE MATERIAL AND GRADED TO BE FREE-DRAINING. UNSUITABLE MATERIAL SUCH AS ORGANIC MATTER IS TO BE REMOVED. SUBGRADE AFFECTED BY RAINFALL AFTER FINAL TRIMMING SHALL NOT BE ACCEPTED UNTIL APPROPRIATE DRYING OUT TREATMENT HAS BEEN AFFECTED.
14. UNBOUND PAVEMENT COURSE MATERIAL IS TO BE PLACED ONLY ON UNDERLYING LAYERS MAINTAINED AT THE CORRECT MOISTURE CONTENT. PREPARED SUBGRADES AND PRECEDING LAYERS OF BASE COURSE SHALL BE MOISTENED IMMEDIATELY PRIOR TO SPREADING THE NEXT COURSE. PAVEMENT MATERIAL IS TO BE MAINTAINED AT THE SPECIFIED MOISTURE CONTENT PRIOR TO AND DURING SPREADING. THE LEADING EDGES OF THE PAVEMENT MATERIAL ARE TO BE KEPT MOIST. MINIMUM COMPACTED LAYER THICKNESS SHALL BE 100 MILLIMETRES AND MAXIMUM COMPACTED THICKNESS SHALL BE 150mm.
15. PRAM RAMPS TO BE CONSTRUCTED IN ACCORDANCE WITH MBRC STD DWG PC-2101A

CONCRETE PATHWAYS

CONCRETE PATHWAYS TO BE CONSTRUCTED IN ACCORDANCE WITH IPWEA STD DWG RS-065

PAVEMENT DEPTH VERIFICATION

PAVEMENT DEPTHS SHALL BE VERIFIED BY THE PROVISION OF AS CONSTRUCTED LEVELS OF THE SUBGRADE AND PRE-SEAL STAGE (OR TOP OF KERB IF INSTALLED) AT A FREQUENCY OF THREE (3) LEVELS (RIGHT HAND SIDE, CENTRE AND LEFT HAND SIDE) EVERY 50 METRES. THE SURVEYED INFORMATION IS TO BE PROVIDED IN A TABULATED FORMAT AND IS TO BE CERTIFIED BY BOTH THE SURVEYOR AND CONSULTING ENGINEER PROVIDED WITH ON MAINTENANCE SUBMISSION.

SUBGRADE TESTING

A DESIGN CALIFORNIA BEARING RATION (CBR) IS TO BE DETERMINED FOR EACH IDENTIFIABLE UNIT DEFINED ON THE BASIS OF TOPOGRAPHY, GEOLOGICAL AND DRAINAGE CONDITION OF THE SITE. THE FOUR DAY SOAKED CBR AT A COMPACTION OF 100% STANDARD COMPACTION IS TO BE THE STANDARD TEST. TESTS ARE TO BE CARRIED OUT IN A NATA REGISTERED LABORATORY (NATIONAL ASSOCIATION OF TESTING AUTHORITIES). THE SAMPLING IS TO BE RANDOMLY LOCATED WITHIN EACH LENGTH OF THE PROPOSED ROADWAY WITH CONSTANT SUBGRADE MATERIAL. IT IS REQUIRED THAT A MINIMUM OF 1 TEST PER MATERIAL TYPE BE CARRIED OUT. THE LOCATION OF MATERIAL TYPE VARIANCES ARE TO BE DETAILED IN ACCORDANCE WITH SAMPLE TEST AND ADJOINING LOT. THE SAMPLES SHALL BE TAKEN GENERALLY IN THE POSITION OF THE OUTER WHEEL PATH ON BOTH SIDES OF THE PROPOSED ROAD. A SKETCH PLAN SHOWING THE LOCATION OF ALL TESTS IS TO BE SUBMITTED WITH THE TEST RESULTS.

ACCESS ROUTES.

THE CONTRACTOR MAY BE REQUIRED, FROM TIME TO TIME, DURING THE PERIOD OF CONSTRUCTION, TO CLEAN THOSE PARTS OF THE ACCESS ROUTE TO THE SITE THAT MAY BE AFFECTED BY ANY MATERIAL DROPPED, DEPOSITED OR SPILLED ON THE ROADS AS A RESULT OF CONSTRUCTION PROCESSES ASSOCIATED WITH THE SITE. ALL CONSTRUCTION TRAFFIC TO THE SUBJECT PROPERTY SHALL BE ACCESSED VIA CASH STREET.

DRIVEWAY NOTES:

ALL CONCRETE DRIVEWAYS ARE TO BE 3.0m. WIDE U.N.O., 125mm. THICK WITH F72 MESH LOCATED CENTRALLY, ON A 75mm. THICK CBR15 GRAVEL BASE.
THE CONTRACTOR IS TO ENSURE THAT ALL SERVICE CONDUITS ARE IN PLACE BEFORE POURING THE DRIVEWAYS.
THE BACK OF KERB AND CHANNEL IS TO BE CUT DOWN AT ALL DRIVEWAY ENTRANCES.
THE EXACT LOCATION AND EXTENT OF THE DRIVEWAY WILL BE DETERMINED ON SITE BY THE SUPERVISING ENGINEER.

COMPACTION TESTING AND FREQUENCY

DETERMINATION OF THE COMPACTION PERFORMANCE OF THE SUBGRADE AND PAVEMENT GRAVEL MATERIALS -LABORATORY REFERENCE DENSITY, FIELD DENSITY, OPTIMUM MOISTURE CONTENT, FIELD MOISTURE CONTENT -SHALL BE CARRIED OUT IN ACCORDANCE WITH AS1289 METHODS OF TESTING SOILS FOR ENGINEERING PURPOSES, IN PARTICULAR THE E SERIES TESTS. THE LABORATORY REFERENCE DENSITY SHALL BE:

- NATURAL SUBGRADE - 100% STANDARD MAXIMUM DRY DENSITY (MDD)
- PAVEMENT UPPER AND LOWER SUB BASE LAYERS - 100% STANDARD MAXIMUM DRY DENSITY (MDD)
- PAVEMENT BASE LAYER - 100% STANDARD MAXIMUM DRY DENSITY (MDD)

THE MINIMUM FREQUENCY OF TESTING SHALL BE IN ACCORDANCE WITH COUNCIL'S PLANNING SCHEME POLICY OPERATIONAL WORKS INSPECTIONS, MAINTENANCE AND BONDING PROCEDURES. PLANNING SCHEME POLICY - INTEGRATED DESIGN - PAGE 45 OF 60.

A MINIMUM OF THREE (3) TESTS PER PROJECT WILL BE REQUIRED. A SKETCH PLAN SHOWING THE LOCATION OF THE TESTS IS TO BE SUBMITTED WITH THE RESULTS. ALL TESTS ARE TO BE DISTRIBUTED REASONABLY EVENLY THROUGH THE FULL DEPTH AND AREA OF PAVEMENT.

SURFACING

1. IN URBAN AND RURAL RESIDENTIAL AREAS, THE ASPHALTIC CONCRETE (A.C.) SURFACING THICKNESS IS TO BE:
   - 25mm (BCC TYPE 2) ON ACCESS TYPE STREETS AND LANEWAYS WITH TRAFFIC VOLUMES LESS THAN 4 X 105;
   - 50mm (BCC TYPE 3) FOR ARTERIAL AND SUB ARTERIAL ROADS; AND
   - 40mm (BCC TYPE 3) FOR ALL OTHER STREETS.

   IN COMMERCIAL AND INDUSTRIAL AREAS THE MINIMUM A.C. SURFACING THICKNESS IS TO BE 40mm.
2. WHERE STENCILED OR PATTERNED SURFACE TREATMENTS ARE PROPOSED AN ADDITIONAL 10mmSHALL BE ADDED TO THE DESIGN THICKNESS OF THE SURFACING. THE A.C. BINDER TYPE IS TO BE IN ACCORDANCE WITH AUSTROADS.
3. A.C. SURFACINGS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH BRISBANE CITY COUNCIL STANDARDS (BCC S310 SUPPLY OF DENSE GRADED ASPHALT AND S320 LAYING OF ASPHALT).
4. PRIMERS SEALS ARE REQUIRED TO BE PLACED UNDER ALL ASPHALT SURFACES. PRIMER SEALS SHALL CONSIST OF CUTBACK BITUMEN (AMC4) OR BITUMEN EMULSION TO MAIN ROADS SPECIFICATION (MRTS 11 SPRAYED BITUMINOUS SURFACINGS EXCLUDING EMULSIONS) AND MRTS 12 SPRAYED BITUMINOUS EMULSION SURFACINGS) WITH 10MM AGGREGATE. WHERE CUTBACK BITUMEN IS USED THE MINIMUM CURING TIME BEFORE THE NEXT SEALED LAYER (ASPHALT) CAN BE PLACED WILL BE FOURTEEN (14) DAYS. WHERE BITUMEN EMULSION IS USED THE MINIMUM CURING TIME BEFORE THE NEXT SEALED LAYER (ASPHALT) CAN BE PLACED WILL BE FOUR (4) DAYS.
5. IN RURAL AREAS AND WHERE SPECIFIED, BITUMEN SPRAY SEAL SURFACING IS TO BE PROVIDED IN THE FORM OF A 2 COAT POLYMER SPRAY SEAL (14MM/7MM) IN ACCORDANCE WITH MAIN ROAD TECHNICAL SPECIFICATIONS (MRTS 18 POLYMER MODIFIED BINDERS, MRTS 11 SPRAYED BITUMINOUS SURFACINGS EXCLUDING EMULSIONS).

THE DEGREE OF SATURATION OF BASE COURSE PRIOR TO SURFACING IS TO BE LESS THAN 65%. TEST RESULTS DEMONSTRATING DEGREE OF SATURATION ARE TO BE PROVIDED TO COUNCIL'S NOMINATED REPRESENTATIVE AT THE PRESEAL INSPECTION AND AS A PART OF THE ON MAINTENANCE DOCUMENTATION.

PAVEMENT

1. THE ROAD PAVEMENT ADOPTED WILL BE DETERMINED BY THE ENGINEER AND APPROVED BY MORETON BAY REGIONAL COUNCIL. THIS PAVEMENT SHALL BE BASED ON SOIL TESTS TAKEN AT FORMATION LEVEL.
2. ANY VARIATIONS TO THE NOMINAL PAVEMENT THICKNESS WILL BE PAID AT THE RATES SHOWN IN THE PRICED SCHEDULE OF RATES.

TOPSOIL

1. ALL TOPSOIL ON ROADWORK AREAS SHALL BE STRIPPED AND STOCKPILED PRIOR TO THE COMMENCEMENT OF ANY ROADWORK OPERATIONS.
2. A TOPSOIL DEPTH OF 150mm. HAS BEEN USED TO DETERMINE TOPSOIL AND EARTHWORK QUANTITIES. THE CONTRACTOR IS TO SATISFY HIMSELF OF THE ACCURACY OF THESE QUANTITIES AND TO MAKE ANY NECESSARY ALLOWANCE IF HE DISAGREES WITH THEM.
3. A TOPSOIL RESPREAD DEPTH OF 150mm ON ALLOTMENTS HAS BEEN USED TO DETERMINE EARTHWORK QUANTITIES.

ROAD 3 (BRADMAN STREET & FLINDERS STREET) CONTROL LINE DETAILS

EXISTING STAGE 2 / FUTURE / STAGE 3 / EXISTING STAGE 1

PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	480858.894	7014713.201	187°29'57.03"			
TC	74.434	480849.180	7014639.404	187°29'57.03"			
IP 2	86.215	480847.222	7014624.532		R = -15.000	23.562	90°00'00.00"
CT	97.996	480862.094	7014622.574	97°29'57.03"			
TC	196.535	480959.789	7014609.714	97°29'57.03"			
IP 3	203.608	480966.861	7014608.783		R = -45.000	14.147	18°00'45.00"
CT	210.682	480973.873	7014610.085	79°29'12.03"			
TC	234.589	480997.380	7014614.447	79°29'12.03"			
IP 4	245.192	481010.653	7014616.910		R = 13.500	21.206	90°00'00.00"
CT	255.795	481013.116	7014603.637	169°29'12.03"			
TC	278.295	481017.222	7014581.514	169°29'12.03"			
IP 5	291.345	481019.623	7014568.577		R = 83.000	26.099	18°01'00.07"
CT	304.395	481017.904	7014555.531	187°30'12.10"			
TC	396.875	481005.828	7014463.843	187°30'12.10"			
IP 6	423.186	481001.453	7014430.629		R = 33.500	52.622	90°00'00.00"
CT	449.497	480968.240	7014435.004	277°30'12.10"			
TC	641.596	480777.786	7014460.089	277°30'12.10"			
IP 7	652.593	480763.903	7014461.918		R = 14.000	21.994	90°00'44.90"
CT	663.590	480765.735	7014475.800	7°30'57.00"			
TC	721.680	480773.333	7014533.392	7°30'57.00"			
IP 8	732.678	480775.165	7014547.276		R = -14.000	21.995	90°00'59.97"
CT	743.676	480761.281	7014549.103	277°29'57.03"			
TC	863.314	480642.666	7014564.718	277°29'57.03"			
IP 9	874.309	480628.785	7014566.545		R = 14.000	21.991	90°00'00.00"
CT	885.305	480630.613	7014580.425	7°29'57.03"			
IP 10	943.305	480638.182	7014637.929				
IP 11	947.459	480638.741	7014642.173		R = 14.000	8.308	34°00'07.78"
IP 12	951.613	480641.577	7014645.379				
IP 13	961.944	480648.423	7014653.116	41°30'02.74"			

ROAD 4 (BRADMAN STREET) CONTROL LINE DETAILS

FUTURE / STAGE 3

PT	CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	480772.491	7014540.324	68°38'02.13"			
TC	11.397	480783.105	7014544.476	68°38'02.13"			
IP 2	14.924	480786.461	7014545.789		R = 14.000	7.053	28°51'54.91"
CT	18.450	480790.033	7014545.318	97°29'57.03"			
IP 3	243.037	481012.699	7014516.007	97°29'57.03"			

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PLANNERS
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LANDSCAPE ARCHITECTS

NORTH:

SCALE: THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE
A1
DO NOT SCALE FROM THIS DRAWING - USE ONLY DIMENSIONS PROVIDED - IF IN DOUBT PLEASE ENQUIRE

APPROVED
FOR AND ON BEHALF OF JFP URBAN CONSULTANTS PTY LTD
☑ T.M°KINNEY RPEQ 5087 ☐ A.FRASER RPEQ 5691 ☐ J.PAPPAS RPEQ 6086 ☐ S.MARSH RPEQ 8068 ☐ H.WATSON RPEQ 6200

DESIGNED	CDV
DRAWN	WN
CHECKED	PNH
DATUM: AHD	

ISSUE:

ISSUE:	DETAILS:	DATE:	INIT:
A	ISSUE FOR OPERATIONAL WORKS APPROVAL	16/09/21	CDV

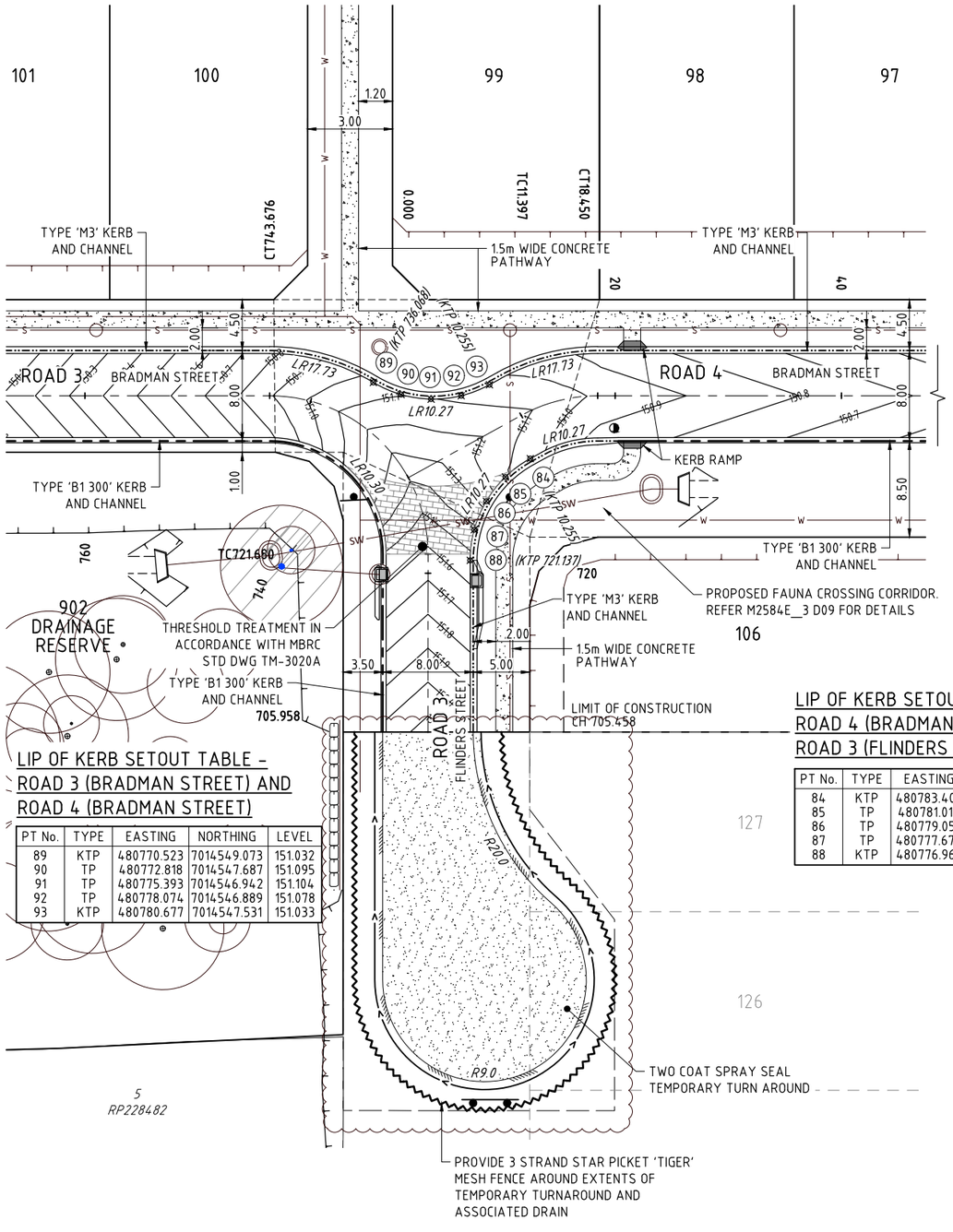
TITLE: ROADWORKS NOTES AND DETAILS PLAN

DFC (PROJECT MANAGEMENT PTY LTD)
'ARCHERS WAY' ESTATE - STAGE 3
AT 22-80 CASH STREET, D'AGUILAR

DENNIS FAMILY CORPORATION

DETAILS:
JOB NO: M2584E_3
PLAN: R02 ISSUE: A
MORETON BAY REGIONAL COUNCIL REF: DA/38032/2019/V3VR
FILE NAME: ROADWORKS.DWG

15/11/2021 N:\M2584\STAGE_3\DESIGN\WORKING\DRAWINGS\ROADWORKS



LIP OF KERB SETOUT TABLE - ROAD 3 (BRADMAN STREET) AND ROAD 4 (BRADMAN STREET)

PT No.	TYPE	EASTING	NORTHING	LEVEL
89	KTP	480770.523	7014549.073	151.032
90	TP	480772.818	7014547.687	151.095
91	TP	480775.393	7014546.942	151.104
92	TP	480778.074	7014546.889	151.078
93	KTP	480780.677	7014547.531	151.033

LIP OF KERB SETOUT TABLE - ROAD 4 (BRADMAN STREET) AND ROAD 3 (FLINDERS STREET)

PT No.	TYPE	EASTING	NORTHING	LEVEL
84	KTP	480783.400	7014540.586	151.033
85	TP	480781.012	7014539.262	151.118
86	TP	480779.057	7014537.355	151.263
87	TP	480777.674	7014535.001	151.417
88	KTP	480776.960	7014532.365	151.529

TREE LEGEND

TREES TO BE RETAINED AND PROTECTED

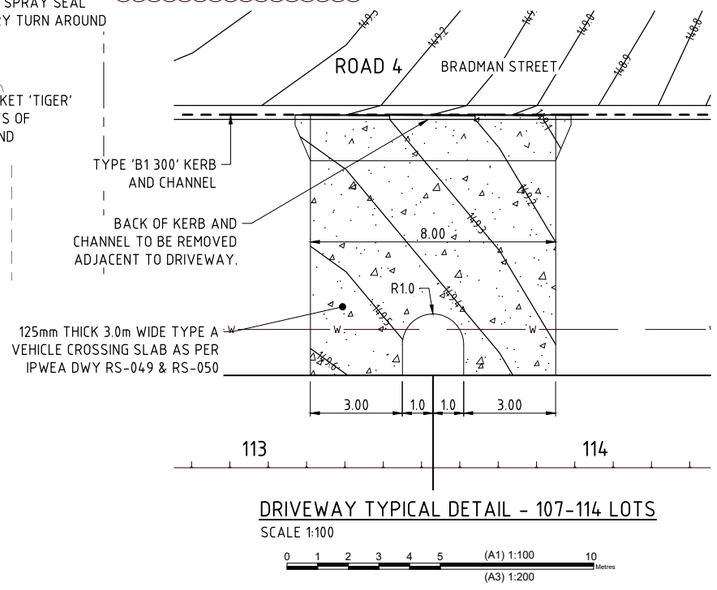
TREES TO BE RETAINED AND REQUIRES THE SUPERVISION OF ANY EXCAVATION OR SERVICES WORKS WITHIN THE HATCHED PROTECTION ZONE BY AN ARBORIST ON SITE.

TPZ
Tree Protection Zone
All vegetation to be protected in accordance with AS4970 - Protection of Trees on Development Sites & any conditions of approval.

LEGEND:

- PAVEMENT CONTOURS
- PROPOSED KERB AND CHANNEL
- PROPOSED STORMWATER
- SEWERAGE
- WATER MAIN
- EXISTING KERB AND CHANNEL
- EXISTING U/G ELECTRICAL
- TELSTRA
- THRESHOLD PAVEMENT TREATMENT
- KERB TRANSITION
- KERB RAMP
- BOLLARDS @ 1.5m CENTRES

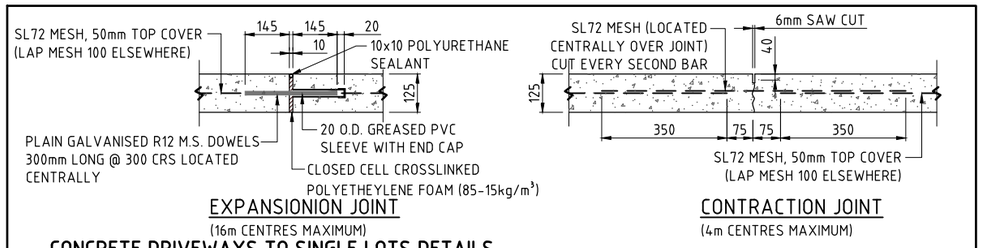
STOPPING SIGHT DISTANCE (SSD)
DESIGN SPEED = 50Km/h
REACTION TIME (RT) = 1.5s
SSD = 48m



DRIVEWAY TYPICAL DETAIL - 107-114 LOTS

SCALE 1:100

0 1 2 3 4 5 (A1) 1:100 10 Metres
(A3) 1:200



EXPANSIONION JOINT

(16m CENTRES MAXIMUM)

CONTRACTION JOINT

(4m CENTRES MAXIMUM)

CONCRETE DRIVEWAYS TO SINGLE LOTS DETAILS

1. ALL CONCRETE DRIVEWAYS TO SINGLE LOTS ARE TO BE 3.0m WIDE U.N.O, GRADE N25 CONCRETE, 125mm THICK WITH SL72 MESH, 50mm TOP COVER, ON A 75mm CBR 15 GRAVEL BASE.
2. THE CONTRACTOR IS TO ENSURE THAT ALL SERVICE CONDUITS ARE IN PLACE BEFORE POURING THE DRIVEWAYS.
3. THE BACK OF KERB AND CHANNEL IS TO BE CUT DOWN AT ALL DRIVEWAY ENTRANCES. FOR DETAILS SEE MBRC STD DWGS RS-049 & RS 050
4. THE SUPERVISING ENGINEER IS TO BE NOTIFIED PRIOR TO POURING CONCRETE FOR INSPECTION OF PLACED MESH
5. THE EXACT LOCATION AND EXTENT OF THE DRIVEWAY WILL BE DETERMINED ON SITE BY THE SUPERVISING ENGINEER.
6. EXPANSION AND CONTRACTION JOINTS TO BE CONSTRUCTED IN ACCORDANCE WITH ABOVE DETAILS.

NOTE: ALL RADII ARE MEASURED TO THE LIP OF THE KERB AND CHANNEL.
◑ 1.8m LENGTH TRANSITION BETWEEN KERB TYPES UNLESS SHOWN OTHERWISE.

EXISTING SERVICES LOCATIONS

THE DESIGN DETAILED ON THIS PLAN HAS BEEN PREPARED BASED ON SERVICE AUTHORITY AS CONSTRUCTED INFORMATION. NO POT HOLING HAS BEEN UNDERTAKEN TO VERIFY EXISTING SERVICES LOCATIONS AND DEPTHS. IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERTAKE POT HOLING (HYDROVAC EXCAVATION) PRIOR TO COMMENCEMENT OF CONSTRUCTION.

THE CONTRACTOR IS TO NOTIFY THE SUPERVISING ENGINEER OF ANY DISCREPENCIES BETWEEN THE DESIGN PLANS AND THE CONDITIONS ON SITE PRIOR TO COMMENCEMENT OF ANY WORK.

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BRISBANE
JFP House - 76 Ernest Street,
South Brisbane Qld 4101
P 07 3012 0100 W www.jfp.com.au
JFP URBAN CONSULTANTS PTY. LTD. A.C.N. 050 414 045

PLANNERS
URBAN DESIGNERS
SURVEYORS
ENGINEERS
LANDSCAPE ARCHITECTS

NORTH: N

SCALE: 1:250 A1
THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE
0 2.5 5 7.5 10 12.5 (A1) 1:250 25 Metres
(A3) 1:500
DO NOT SCALE FROM THIS DRAWING - USE ONLY DIMENSIONS PROVIDED - IF IN DOUBT PLEASE ENQUIRE

APPROVED
FOR AND ON BEHALF OF JFP URBAN CONSULTANTS PTY LTD
☑ T.McKINNEY RPEQ 5087 ☐ A.FRASER RPEQ 5691 ☐ J.PAPPAS RPEQ 6086
☐ S.MARSH RPEQ 8068 ☐ H.WATSON RPEQ 6200

DESIGNED	CDV
DRAWN	WN
CHECKED	PNH
DATUM: AHD	

ISSUE:

ISSUE:	DETAILS:	DATE:	INIT:
B	RFI AMENDMENTS	28/10/21	CDV
A	ISSUE FOR OPERATIONAL WORKS APPROVAL	16/09/21	CDV

TITLE:
ROADWORKS INTERSECTION DETAILS PLAN

DFC (PROJECT MANAGEMENT PTY LTD)
'ARCHERS WAY' ESTATE - STAGE 3
AT 22-80 CASH STREET, D'AGUILAR
DENNIS FAMILY CORPORATION

DETAILS:
JOB NO: M2584E_3
PLAN: R03 ISSUE: B
MORETON BAY REGIONAL COUNCIL REF: DA/38032/2019/V3VR
FILE NAME: INTERSECTION.DWG

15/11/2021 N:\JOBS\STAGE_3\DESIGN\WORKING\DRAWINGS\INTERSECTION

NOTES:

ASSUMED TOPSOIL DEPTH 150mm

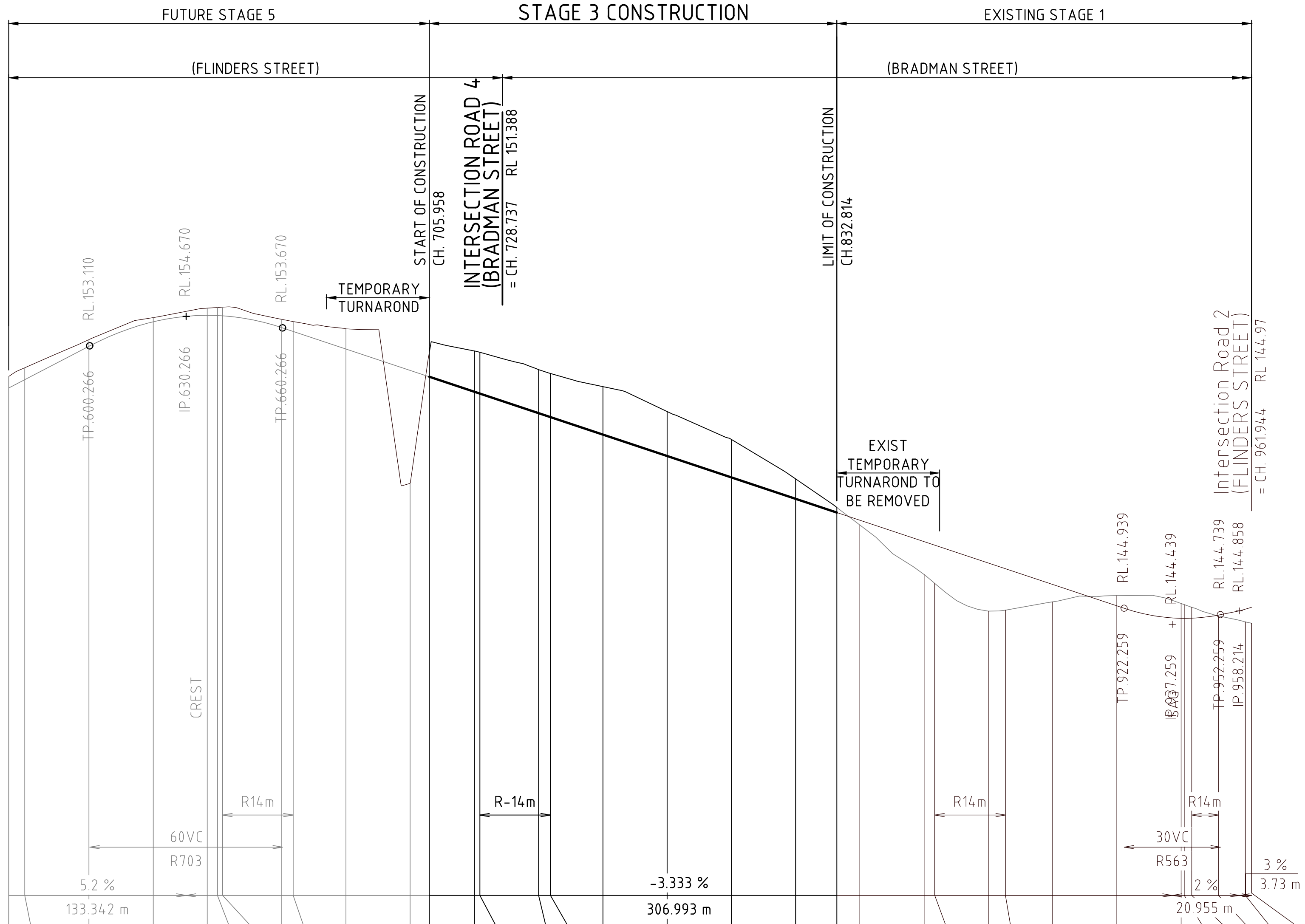
ULTIMATE PAVEMENT DEPTHS ARE DETERMINED BY SOIL TESTS TAKEN AT FORMATION LEVEL.

ESA's 1.2×10^5
"LIVING RESIDENTIAL" - ACCESS STREET

NOMINAL PAVEMENT
CH 705.966 TO CH 832.814
25mm AC (BCC TYPE 2)
125mm BASE COURSE (CBR 60)
215mm SUB-BASE COURSE (CBR 45)

✳ REFER INTERSECTION DETAILS FOR LIP OF KERB LEVELS ON DWG No. M2584E_3 R03

CONTRACTOR TO NOTIFY SUPERINTENDENT IF WORKS TO EXISTING KERB & PAVEMENT IS REQUIRED TO ENSURE ADEQUATE & FREE DRAINING CONNECTION TO EXISTING ROAD



DATUM R.L.134.0

PEGGED CHAINAGE ALONG CONTROLLINE	575.000	580.000	600.000	620.000	636.832	640.000	641.596	660.000	663.590	680.000	700.000	705.966	720.000	721.680	740.000	743.676	760.000
LHS LIP OF KERB LEVELS	151.684	151.944	152.984	153.747	153.948	153.941	153.932	153.568	153.448	152.901	152.235		151.568	151.512	150.902	150.779	150.235
RHS LIP OF KERB LEVELS	151.684	151.944	152.984	153.747	153.948	153.941	153.932	153.567	153.447	152.900	152.234		151.567	✳	150.901	150.778	150.234
CUT (-ve) FILL	-0.362	-0.374	-0.209	-0.131	-0.223	-0.252	-0.272	-0.256	-0.307	-0.633	3.517		-1.271	-1.285	-1.356	-1.358	-1.494
PAVEMENT LEVELS ALONG CONTROLLINE	151.796	152.056	153.096	153.859	154.060	154.053	154.044	153.679	153.559	153.012	152.346		151.679	151.623	151.013	150.890	150.346
SURFACE LEVELS ALONG CONTROLLINE	152.157	152.430	153.305	153.990	154.283	154.305	154.316	153.935	153.866	153.646	148.829		152.950	152.909	152.368	152.248	151.840

PEGGED CHAINAGE ALONG CONTROLLINE	780.000	800.000	820.000	832.814	840.000	860.000	863.314	880.000	885.305	900.000	920.000	940.000	941.007	943.305	951.613	960.000	961.944
LHS LIP OF KERB LEVELS	149.569	148.902	148.236		147.569	146.902	146.792	146.236	146.058	145.569	144.902	144.515	144.514	144.519	144.614	✳	
RHS LIP OF KERB LEVELS	149.568	148.901	148.235		147.568	146.902	146.791	146.235	146.058	145.569	144.902	144.515	144.514		✳		
CUT (-ve) FILL	-1.386	-1.182	-0.620		0.150	1.023	1.190	1.498	1.292	0.541	-0.319	-0.461	-0.426	-0.340	0.024	0.397	
PAVEMENT LEVELS ALONG CONTROLLINE	149.680	149.013	148.347		147.680	147.013	146.903	146.347	146.170	145.680	145.014	144.627	144.626	144.631	144.726	144.911	144.970
SURFACE LEVELS ALONG CONTROLLINE	151.065	150.195	148.967		147.530	145.991	145.713	144.849	144.878	145.140	145.333	145.089	145.053	144.971	144.702	144.514	144.473

LONGITUDINAL SECTION - ROAD 3 (BRADMAN & FLINDERS STREET)

("LIVING RESIDENTIAL" - ACCESS STREET CH. 705.966 - CH. 832.814)

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PLANNERS
URBAN DESIGNERS
SURVEYORS
ENGINEERS
LANDSCAPE ARCHITECTS

NORTH:

SCALE: Horizontal 1:1000 Vertical 1:100 THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE
A1
0 1 2 3 4 5 (A1) 1:100 10 Metres
0 10 20 30 40 50 (A1) 1:1000 100
DO NOT SCALE FROM THIS DRAWING - USE ONLY DIMENSIONS PROVIDED - IF IN DOUBT PLEASE ENQUIRE

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☐ S.MARSH RPEQ 8068 ☐ H.WATSON RPEQ 6200

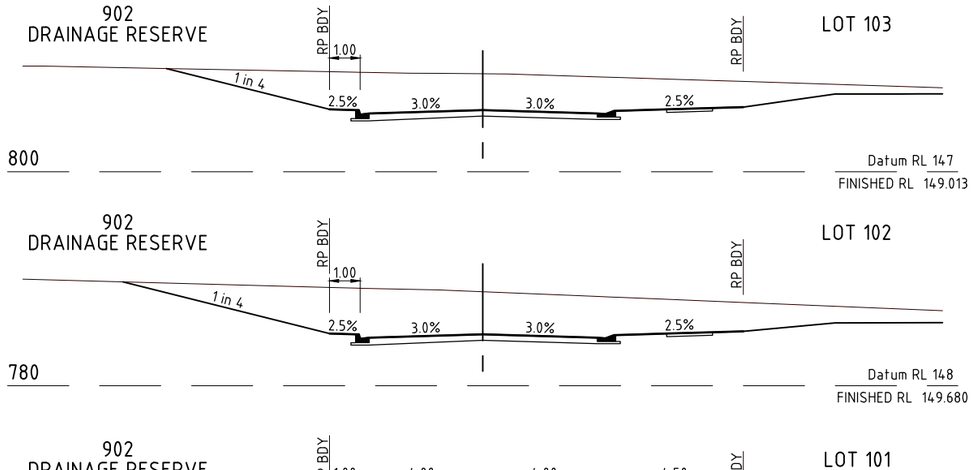
DESIGNED	CDV
DRAWN	WN
CHECKED	PNH
DATUM: AHD	

ISSUE	DETAILS	DATE	INIT
A	ISSUE FOR OPERATIONAL WORKS APPROVAL	16/09/21	CDV

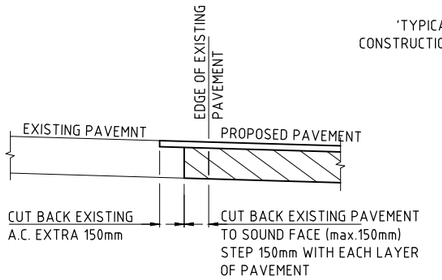
TITLE:
ROADWORKS LONGITUDINAL SECTION - ROAD 3 (BRADMAN & FLINDERS STREET)
DFC (PROJECT MANAGEMENT PTY LTD)
'ARCHERS WAY' ESTATE - STAGE 3
AT 22-80 CASH STREET, D'AGUILAR

DENNIS FAMILY CORPORATION

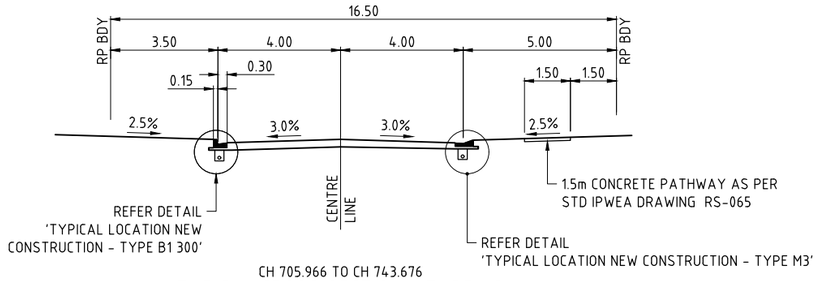
DETAILS:
JOB NO: M2584E_3
PLAN: R04 ISSUE: A
MORETON BAY REGIONAL COUNCIL REF: DA/38032/2019/V3VR
FILE NAME: ROADWORKS SECTIONS.DWG



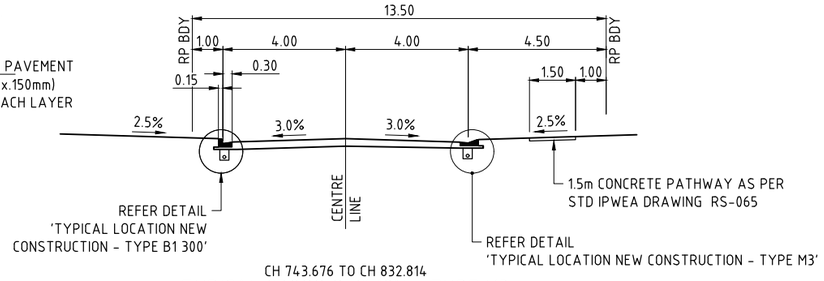
CROSS SECTIONS -ROAD 3 (BRADMAN & FLINDERS STREET)
SCALE 1:100



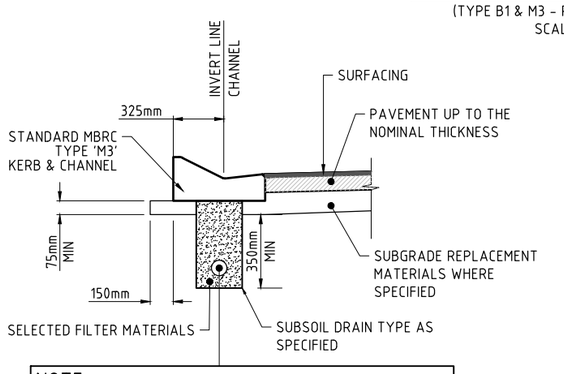
CUT BACK DETAIL
SCALE 1:20



CH 705.966 TO CH 743.676
TYPICAL CROSS SECTION - TYPE M3
(TYPE B1 & M3 - RESIDENTIAL ROAD 3)
SCALE 1 : 100

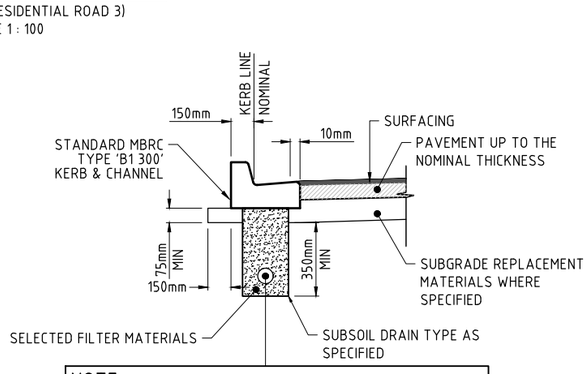


CH 743.676 TO CH 832.814
TYPICAL CROSS SECTION - TYPE M3
(TYPE B1 & M3 - RESIDENTIAL ROAD 3)
SCALE 1 : 100



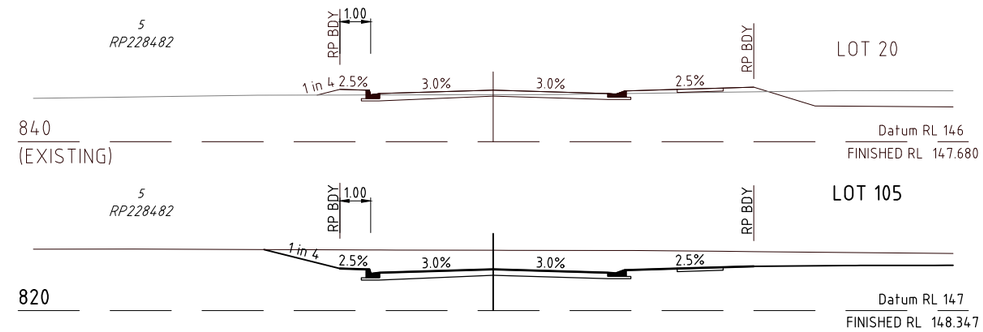
NOTE:
SIDE DRAINS ARE TO BE LOCATED UNDER ALL KERB AND CHANNEL. FOR DETAILS OF SIDE DRAIN CONSTRUCTION REFER TO IPWEAQ STD DRAWING RS-140 & RS-142

TYPICAL LOCATION NEW CONSTRUCTION - TYPE M3
SCALE 1:20



NOTE:
SIDE DRAINS ARE TO BE LOCATED UNDER ALL KERB AND CHANNEL. FOR DETAILS OF SIDE DRAIN CONSTRUCTION REFER TO IPWEAQ STD DRAWING RS-140 & RS-142

TYPICAL LOCATION NEW CONSTRUCTION - TYPE B1 300
SCALE 1:20



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ENGINEERS
LANDSCAPE ARCHITECTS

NORTH:

SCALE:
1:100
A1
THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE
0 1 2 3 4 5 (A1) 1:100 10 Metres
(A3) 1:200
DO NOT SCALE FROM THIS DRAWING - USE ONLY DIMENSIONS PROVIDED - IF IN DOUBT PLEASE ENQUIRE

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DESIGNED	CDV
DRAWN	WN
CHECKED	PNH
DATUM: AHD	

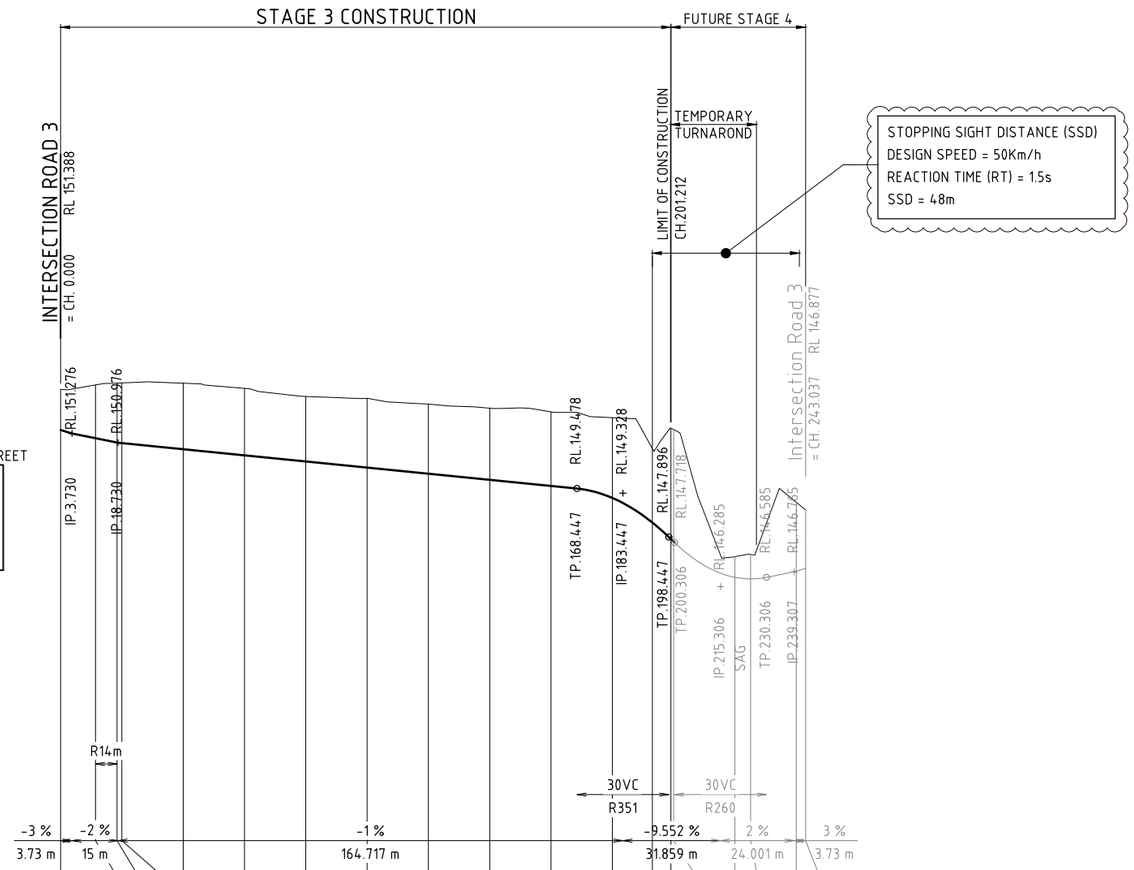
ISSUE:

ISSUE:	DETAILS:	DATE:	INIT:
A	ISSUE FOR OPERATIONAL WORKS APPROVAL	16/09/21	CDV

TITLE:
ROADWORKS CROSS SECTION - ROAD 3
(BRADMAN & FLINDERS STREET)
DFC (PROJECT MANAGEMENT PTY LTD)
'ARCHERS WAY' ESTATE - STAGE 3
AT 22-80 CASH STREET, D'AGUILAR
DENNIS FAMILY CORPORATION

DETAILS:
JOB NO: M2584E_3
PLAN: R05 ISSUE: A
MORETON BAY REGIONAL COUNCIL REF: DA/38032/2019/V3VR
FILE NAME: ROADWORKS SECTIONS.DWG

15/11/2021 N:\M2584\STAGE_3\DESIGN\WORKING\DRAWINGS\ROADWORKS SECTIONS



NOTES:

ASSUMED TOPSOIL DEPTH 150mm

ULTIMATE PAVEMENT DEPTHS ARE DETERMINED BY SOIL TESTS TAKEN AT FORMATION LEVEL.

ESA's 1.2×10^5
"LIVING RESIDENTIAL" - ACCESS STREET

NOMINAL PAVEMENT
CH **0.000** TO CH **199.116**
25mm AC (BCC TYPE 2)
125mm BASE COURSE (CBR 60)
215mm SUB-BASE COURSE (CBR 45)

✳ REFER INTERSECTION DETAILS FOR LIP OF KERB LEVELS ON DWG No. **M2584E_3 R03**

HORIZ. CURVE DATA
V.C.LENGTH (m)
RADIUS OF CURVATURE
TANGENT GRADE (%)
DISTANCE IP-IP

DATUM R.L.136.0

LHS LIP OF KERB LEVELS	✳		151.010	150.869	150.851	150.651	150.451	150.251	150.051	149.851	149.651	149.451	149.061			147.635	146.472	146.421					
RHS LIP OF KERB LEVELS	✳		151.010	150.869	150.851	150.652	150.452	150.252	150.052	149.852	149.652	149.452	149.062			147.636	146.473	146.421					
CUT (-ve) FILL	-1.325		-1.734	-1.933	-1.959	-2.151	-2.182	-2.119	-2.257	-2.272	-2.337	-2.416	-2.616			-3.658	-0.675	-0.798	-2.245	-1.905			
PAVEMENT LEVELS ALONG CONTROLLINE	151.388		151.122	150.981	150.963	150.763	150.563	150.363	150.163	149.963	149.763	149.563	149.173			147.747	146.584	146.533	146.786	146.877			
SURFACE LEVELS ALONG CONTROLLINE	152.712		152.857	152.915	152.922	152.914	152.745	152.482	152.420	152.235	152.100	151.979	151.789			151.405	147.258	147.332	149.031	148.783			
PEGGED CHAINAGE ALONG CONTROLLINE	0.000		11.397	18.450	20.000	40.000	60.000	80.000	100.000	120.000	140.000	160.000	180.000	193.037	199.116	200.000	220.000	225.112	240.000	243.037			

LONGITUDINAL SECTION - ROAD 4 (BRADMAN STREET)

("LIVING RESIDENTIAL" - ACCESS STREET CH.0.000 - END)

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URBAN DESIGNERS
SURVEYORS
ENGINEERS
LANDSCAPE ARCHITECTS

NORTH:

SCALE:
Horizontal 1:1000
Vertical 1:100
A1
THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE
0 1 2 3 4 5 (A1) 1:100 10 Metres
0 10 20 30 40 50 (A1) 1:1000 100
DO NOT SCALE FROM THIS DRAWING - USE ONLY DIMENSIONS PROVIDED - IF IN DOUBT PLEASE ENQUIRE

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☐ S.MARSH RPEQ 8068 ☐ H.WATSON RPEQ 6200

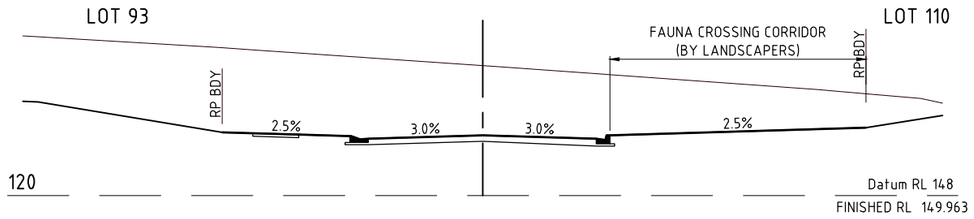
DESIGNED	CDV
DRAWN	WN
CHECKED	PNH
DATUM: AHD	

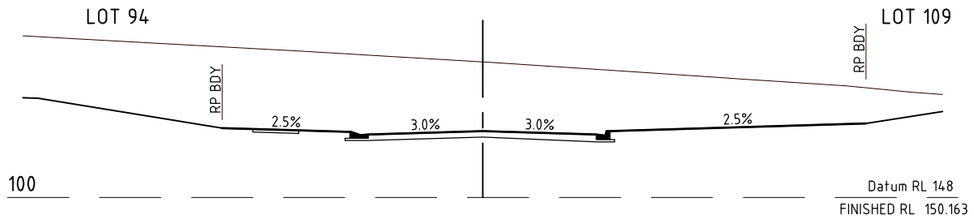
ISSUE:

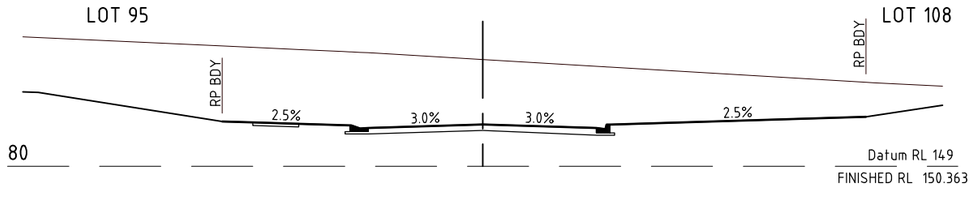
ISSUE:	DETAILS:	DATE:	INIT:
B	RFI AMENDMENTS	12/11/21	CDV
A	ISSUE FOR OPERATIONAL WORKS APPROVAL	16/09/21	CDV

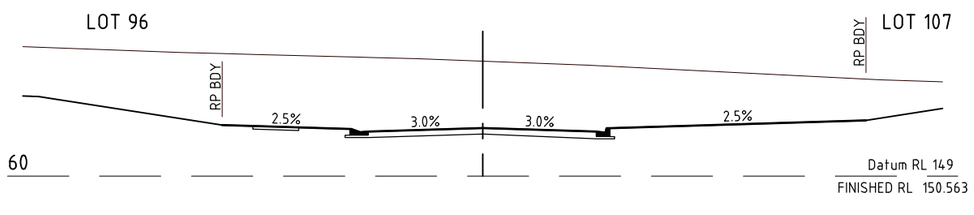
TITLE:
ROADWORKS LONGITUDINAL SECTION - ROAD 4 (BRADMAN STREET)
DFC (PROJECT MANAGEMENT PTY LTD)
'ARCHERS WAY' ESTATE - STAGE 3
AT 22-80 CASH STREET, D'AGUILAR
DENNIS FAMILY CORPORATION

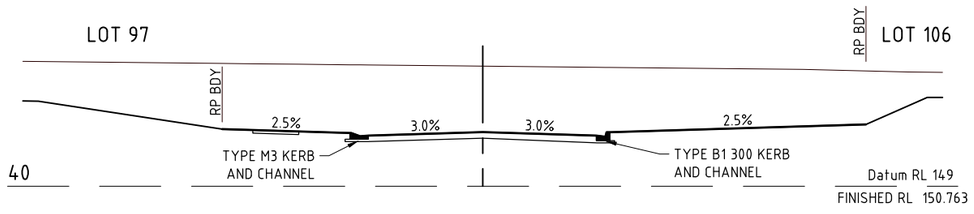
DETAILS:
JOB NO: M2584E_3
PLAN: R06 ISSUE: B
MORETON BAY REGIONAL COUNCIL REF: DA/38032/2019/V3VR
FILE NAME: ROADWORKS SECTIONS.DWG

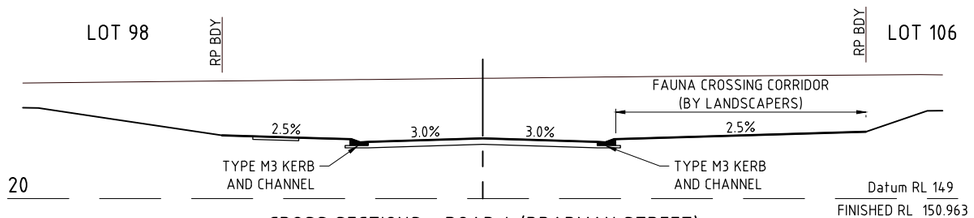




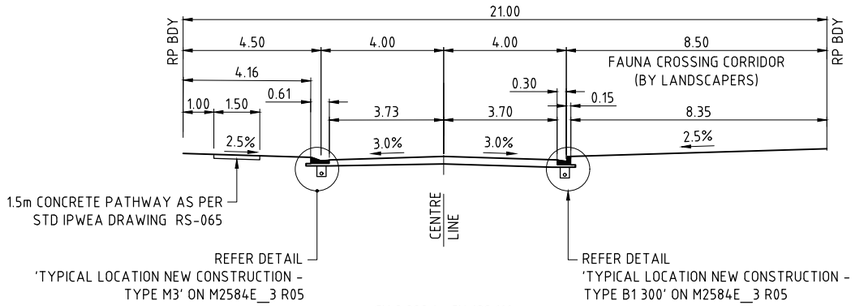






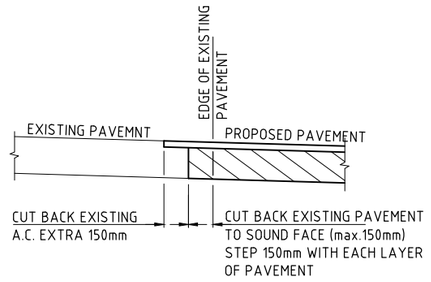


CROSS SECTIONS - ROAD 4 (BRADMAN STREET)
SCALE 1:100

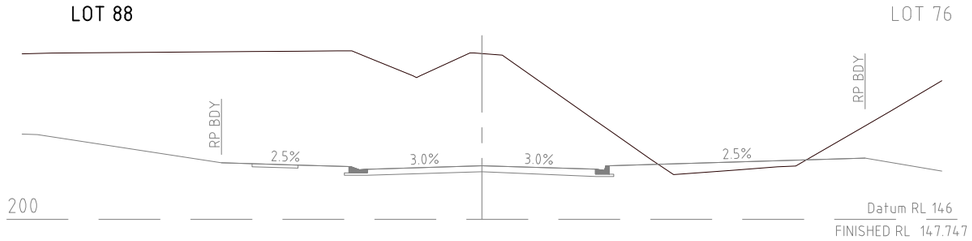


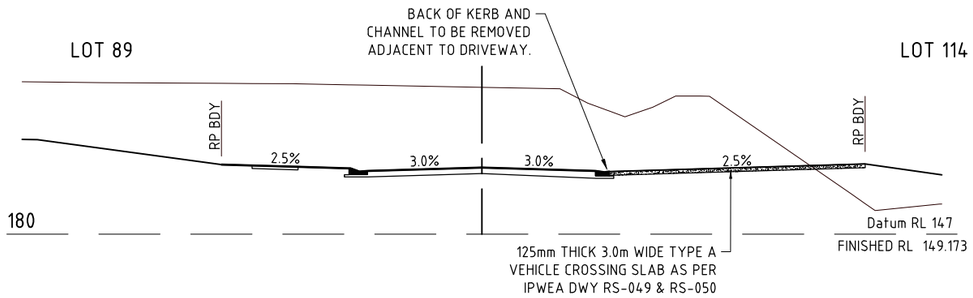
CH 0.000 to CH 199.116

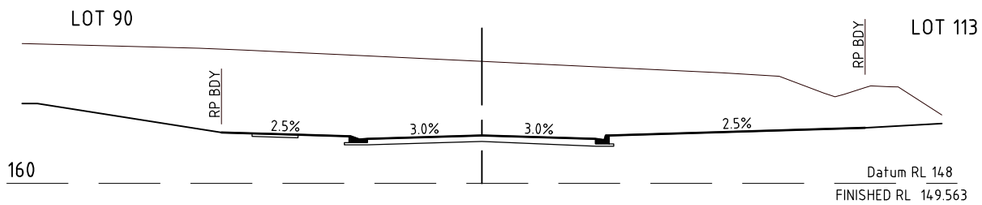
TYPICAL CROSS SECTION - TYPE B1 300 & M3
(TYPE B1 & M3 - RESIDENTIAL ROAD 3)
SCALE 1 : 100

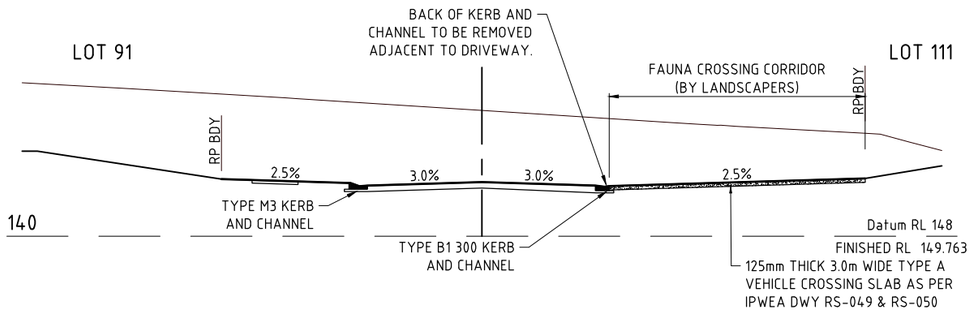


CUT BACK DETAIL
SCALE 1:20









DIAL BEFORE YOU DIG www.1100.com.au
The Essential First Step

NORTH:

SCALE:
1:100
A1
THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE
0 1 2 3 4 5 (A1) 1:100 10 Metres
(A3) 1:200
DO NOT SCALE FROM THIS DRAWING - USE ONLY DIMENSIONS PROVIDED - IF IN DOUBT PLEASE ENQUIRE

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DESIGNED	CDV
DRAWN	WN
CHECKED	PNH
DATUM: AHD	

ISSUE:

ISSUE:	DETAILS:	DATE:	INIT:
A	ISSUE FOR OPERATIONAL WORKS APPROVAL	16/09/21	CDV

TITLE:
ROADWORKS CROSS SECTIONS - ROAD 4 (BRADMAN STREET)
DFC (PROJECT MANAGEMENT PTY LTD)
'ARCHERS WAY' ESTATE - STAGE 3
AT 22-80 CASH STREET, D'AGUILAR

DENNIS FAMILY CORPORATION

DETAILS:
JOB NO: M2584E_3
PLAN: R07 ISSUE: A
MORETON BAY REGIONAL COUNCIL REF: DA/38032/2019/V3VR
FILE NAME: ROADWORKS SECTIONS.DWG

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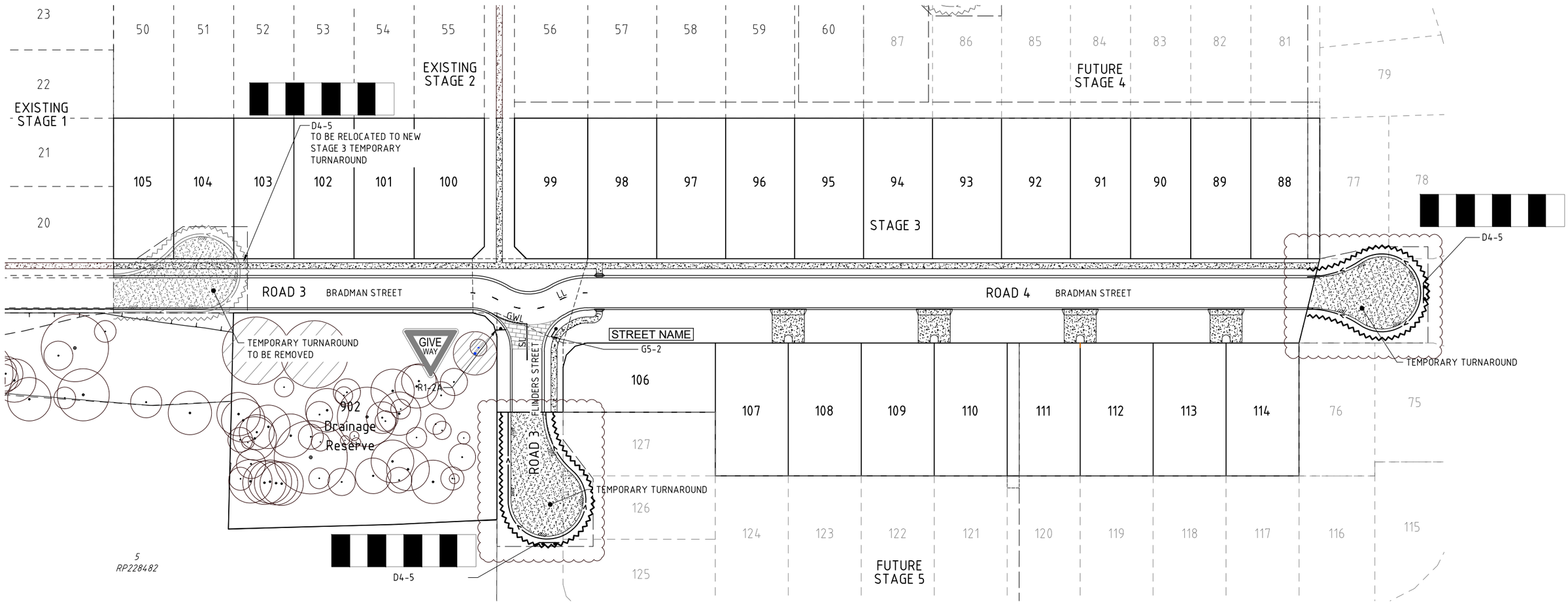
LANDSCAPE ARCHITECTS

15/11/2021 N:\M2584E_3\DESIGN\WORKING\DRAWINGS\ROADWORKS SECTIONS

LEGEND

SL – SEPARATION LINE
BL – BARRIER LINE
LL – LANE LINE
EL – EDGE LINE
CL – CONTINUITY LINE
TL – TURN LINE
OL – PAINTED ISLAND
HL – HOLD LINE
NSL – NO STOPPING LINES
SPL – STOP LINE
GWL – GIVEWAY LINE
CW – CROSSWALK LINE



NOTES

1. ALL PAVEMENT MARKING AND TRAFFIC SIGNS TO BE INSTALLED IN ACCORDANCE WITH THE QUEENSLAND DEPARTMENT OF MAIN ROADS, MANUAL OF UNIFORM TRAFFIC CONTROLS DEVICES (MUTCD).
2. TRAFFIC ISLAND NOSES ARE TO BE PAINTED WITH WHITE REFLECTORISED PAINT.
3. RAISED REFLECTORISED PAVEMENT MARKERS (RRPM's) ARE TO BE PLACED IN ACCORDANCE WITH M.U.T.C.D. – PART 2 SECTION 4.6.5.3.
4. INSTALL TGS1 ON ALL RAMPED KERB CROSSINGS IN ACCORDANCE WITH M.B.R.C. STANDARD DRAWING PC-2170.

THE CONTRACTOR IS TO NOTIFY THE SUPERVISING ENGINEER OF ANY DISCREPENCIES BETWEEN THE DESIGN PLANS AND THE CONDITIONS ON SITE PRIOR TO COMMENCEMENT OF ANY WORK.

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LANDSCAPE ARCHITECTS

NORTH: N

SCALE: 1:500 A1
THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE
0 5 10 15 20 25 (A1) 1:500 50 Metres
(A3) 1:1000
DO NOT SCALE FROM THIS DRAWING - USE ONLY DIMENSIONS PROVIDED - IF IN DOUBT PLEASE ENQUIRE

APPROVED
FOR AND ON BEHALF OF JFP URBAN CONSULTANTS PTY LTD
☑ T.McKINNEY RPEQ 5087 ☐ A.FRASER RPEQ 5691 ☐ J.PAPPAS RPEQ 6086
☐ S.MARSH RPEQ 8068 ☐ H.WATSON RPEQ 6200

DESIGNED	CDV
DRAWN	WN
CHECKED	PNH
DATUM: AHD	

ISSUE:	DETAILS:	DATE:	INIT:
B	RFI AMENDMENTS	28/10/21	CDV
A	ISSUE FOR OPERATIONAL WORKS APPROVAL	16/09/21	CDV

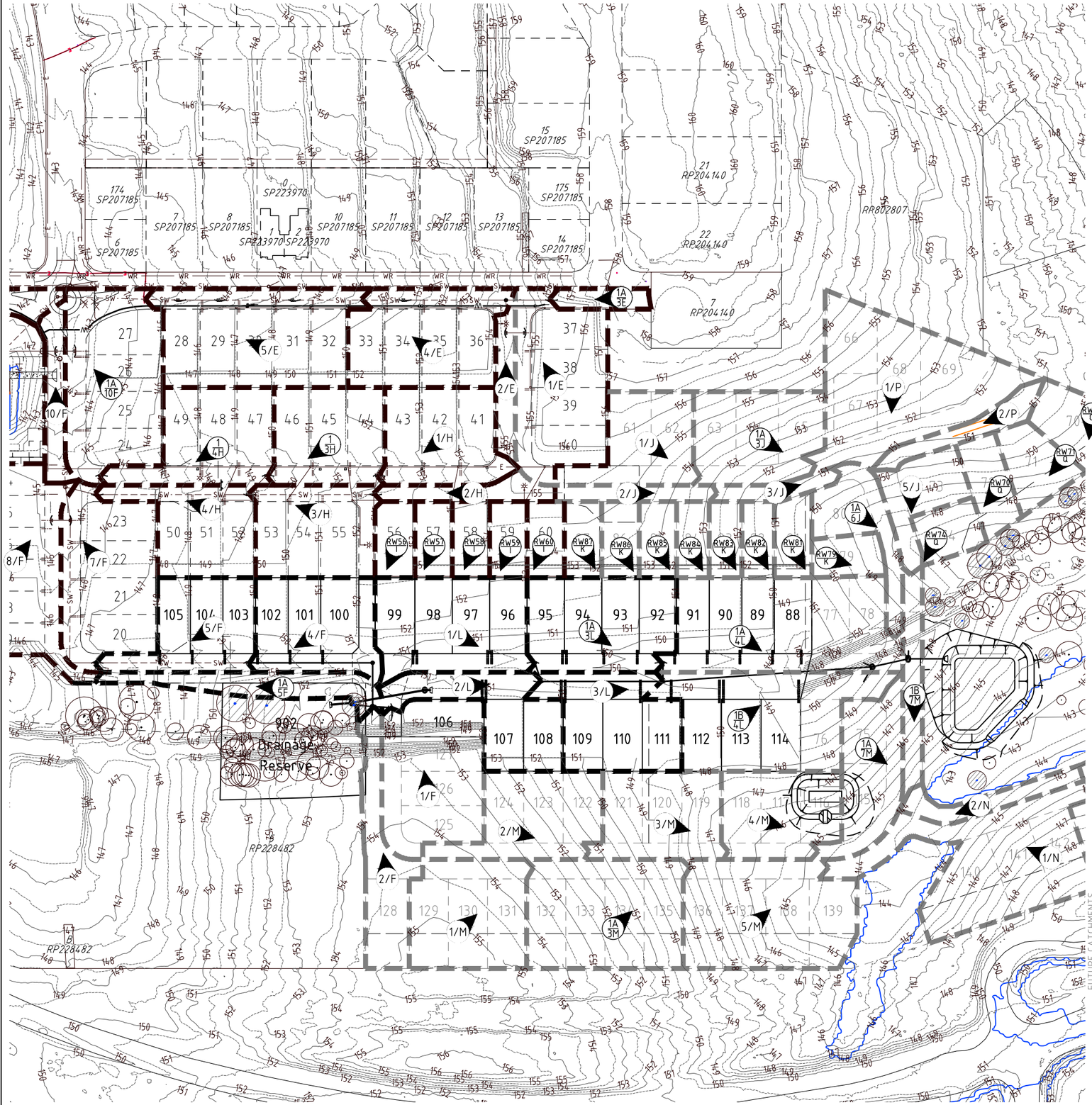
TITLE:
SIGNS AND LINEMARKING PLAN

DFC (PROJECT MANAGEMENT PTY LTD)
'ARCHERS WAY' ESTATE - STAGE 3
AT 22-80 CASH STREET, D'AGUILAR

DENNIS FAMILY CORPORATION

DETAILS:
JOB NO: M2584E_3
PLAN: SL01 ISSUE: B
MORETON BAY REGIONAL COUNCIL REF: DA/38032/2019/V3VR
FILE NAME: LINEMARKING.DWG

15/11/2021 N:\M2584E\STAGE_3\DESIGN\WORKING\DRAWINGS\LINEMARKING



CATCHMENT NAME	CATCHMENT AREA (ha)	RUNOFF COEFF MINOR	RUNOFF COEFF MAJOR
1/A	0.069	0.88	1.00
3/A	0.046	0.88	1.00
4/A	0.031	0.88	1.00
RW1/B	0.066	0.91	1.00
RW2/B	0.067	0.91	1.00
RW3/B	0.067	0.91	1.00
RW13/D	0.063	0.91	1.00
RW12/D	0.060	0.91	1.00
RW11/D	0.060	0.91	1.00
RW10/D	0.060	0.91	1.00
RW9/D	0.060	0.91	1.00
RW8/D	0.074	0.91	1.00
RW4/B	0.070	0.91	1.00
1A/6A	0.087	0.88	1.00
6/A	0.030	0.88	1.00
7/A	0.172	0.88	1.00
RW5/C	0.102	0.91	1.00
1/O	0.026	0.88	1.00
1A/2O	0.070	0.88	1.00
2/O	0.713	0.88	1.00
RW87/K	0.060	0.91	1.00
RW86/K	0.060	0.91	1.00
RW85/K	0.060	0.91	1.00
RW84/K	0.053	0.91	1.00
RW83/K	0.053	0.91	1.00
RW82/K	0.053	0.91	1.00
RW81/K	0.064	0.91	1.00
RW79/K	0.061	0.91	1.00
RW70/Q	0.125	0.91	1.00
RW71/Q	0.095	0.91	1.00
RW72/Q	0.083	0.91	1.00
RW74/Q	0.069	0.91	1.00
1/J	0.193	0.88	1.00
2/J	0.055	0.88	1.00
1/L	**0.307**	**0.88**	**1.00**
2/L	**0.210**	**0.88**	**1.00**
1/P	0.459	0.88	1.00
2/P	0.074	0.88	1.00
1A/3J	0.244	0.88	1.00
3/J	0.044	0.88	1.00
5/J	0.120	0.88	1.00
1A/3L	**0.291**	**0.88**	**1.00**
3/L	**0.250**	**0.88**	**1.00**
1A/4L	0.442	0.88	1.00
1B/4L	0.379	0.88	1.00
1A/6J	0.131	0.88	1.00
1/M	0.267	0.88	1.00
2/M	0.237	0.88	1.00
1A/3M	0.361	0.88	1.00
3/M	0.228	0.88	1.00
4/M	0.213	0.88	1.00

EXISTING STAGE 1 CATCHMENTS

FUTURE CATCHMENTS

STAGE 3 CATCHMENTS

FUTURE CATCHMENTS

STAGE 3 CATCHMENTS

FUTURE CATCHMENTS

LEGEND:

FINISHED CONTOURS

PROPOSED STORMWATER DRAINAGE

PROPOSED CATCHMENT BOUNDARIES

CATCHMENT NUMBERS 1/A

CATCHMENT NAME	CATCHMENT AREA (ha)	RUNOFF COEFF MINOR	RUNOFF COEFF MAJOR
5/M	0.380	0.88	1.00
1/N	0.409	0.88	1.00
2/N	0.070	0.88	1.00
1A/7M	0.199	0.88	1.00
1B/7M	0.091	0.88	1.00
RW60/I	0.060	0.91	1.00
RW59/I	0.060	0.91	1.00
RW58/I	0.060	0.91	1.00
RW57/I	0.060	0.91	1.00
RW56/I	0.064	0.91	1.00
1/F	0.315	0.88	1.00
2/F	0.171	0.88	1.00
4/F	**0.247**	**0.88**	**1.00**
1A/5F	**0.127**	**0.88**	**1.00**
5/F	**0.217**	**0.88**	**1.00**
7/F	0.333	0.88	1.00
8/F	0.386	0.88	1.00
1/E	0.334	0.88	1.00
2/E	0.062	0.88	1.00
1/H	0.239	0.88	1.00
2/H	0.069	0.88	1.00
1A/3E	0.041	0.88	1.00
4/E	0.308	0.88	1.00
5/E	0.399	0.88	1.00
1A/3H	0.230	0.88	1.00
3/H	0.236	0.88	1.00
1A/4H	0.253	0.88	1.00
4/H	0.211	0.88	1.00
1A/10F	0.372	0.88	1.00
10/F	0.082	0.88	1.00
1/G	0.171	0.88	1.00

FUTURE CATCHMENTS

EXISTING STAGE 2 CATCHMENTS

FUTURE CATCHMENTS

STAGE 3 CATCHMENTS

EXISTING STAGE 1 CATCHMENTS

EXISTING STAGE 2 CATCHMENTS

EXISTING STAGE 1 CATCHMENTS

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LANDSCAPE ARCHITECTS

NORTH: N

SCALE: 1:1000 (A1) — 1:2000 (A3)

THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE

0 10 20 30 40 50 100 Metres

DO NOT SCALE FROM THIS DRAWING - USE ONLY DIMENSIONS PROVIDED - IF IN DOUBT PLEASE ENQUIRE

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FOR AND ON BEHALF OF JFP URBAN CONSULTANTS PTY LTD

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DESIGNED	CDV
DRAWN	WN
CHECKED	PNH
DATUM: AHD	

ISSUE:

ISSUE:	DETAILS:	DATE:	INIT:
A	ISSUE FOR OPERATIONAL WORKS APPROVAL	16/09/21	CDV

TITLE:

DRAINAGE CATCHMENT PLAN

DFC (PROJECT MANAGEMENT PTY LTD)

'ARCHERS WAY' ESTATE - STAGE 3
AT 22-80 CASH STREET, D'AGUILAR

DENNIS FAMILY CORPORATION

DETAILS:

JOB NO: M2584E_3

PLAN: D01 ISSUE: A

MORETON BAY REGIONAL COUNCIL REF: DA/38032/2019/V3VR

FILE NAME: DRAINAGE.DWG

15/11/2021 P:\M2584\STAGE_3\DESIGN\WORKING\DRAWINGS\DRAINAGE.E

Fire Ant Movement Controls

To prevent the spread of fire ants, the Queensland Government has implemented controls that apply to individuals and commercial operators, to restrict the movement of materials that could carry fire ants including soil, turf, potted plants, mulch, baled hay or straw, animal manures, mining or quarry products.

Penalties apply for non-compliance with the movement controls. If you are unsure of your obligations under the Biosecurity Act 2014 contact the relevant Queensland State Government Department.

PRIOR TO COMMENCEMENT OF WORKS REFER TO VEGETATION MANAGEMENT PLAN, REHABILITATION PLAN AND LANDSCAPE ARCHITECTS PLANS

THE CONTRACTOR IS TO NOTIFY THE SUPERVISING ENGINEER OF ANY DISCREPENCIES BETWEEN THE DESIGN PLANS AND THE CONDITIONS ON SITE PRIOR TO COMMENCEMENT OF ANY PIPE LAYING.

DRAINAGE NOTES:

1. ROOFWATER LINES TO BE LAID 1.5m FROM PROPERTY BOUNDARIES, WHERE ROOFWATER LINE IS PARALLEL WITH SEWER 1.0m CLEARANCE TO SEWER LINE IS TO BE PROVIDED.
2. ROOFWATER PITS TO BE IN ACCORDANCE WITH IPWEAQ STD DWG D-0110 WITH CONCRETE INFILL GATIC LIDS OR APPROVED EQUIVALENT.
3. GRATED ROOFWATER PITS TO BE IN ACCORDANCE WITH IPWEAQ STD DWG D-0050 WITH 'BOLT DOWN' HEAVY DUTY GRATES & HOT DIPPED GALVANISED TO AS 1650.
4. THE DESIGN SURFACE LEVELS SHOWN FOR ROOFWATER PITS IS INDICATIVE ONLY.
   - PITS WITH SOLID COVERS SHALL FINISH 25mm (APPROX) ABOVE THE FINISHED SURFACE LEVEL
   - PITS WITH GRATED TOPS SHALL FINISH:
     a) AT THE INVERT OF CUT-OFF DRAINS (IF APPLICABLE)
     b) 200mm BELOW THE SURROUNDING FINSHED SURFACE
4. THE FINISHED SURFACE SHALL BE SHAPED TO DIRECT OVERLAND FLOW TO THE GRATED PITS
5. ALL GULLIES ARE TO BE TYPE 'A' CATCHPITS AS PER P.R.S.C. STD DRAWINGS 8-30001, 8-30002 AND 8-30003.
6. LOTS WITH FIELD INLETS ARE TO BE GRADED TO DIVERT WATER TO PITS.
7. ALL GRATES IN PRIVATE PROPERTY ARE TO BOLTED DOWN.

EXISTING SERVICES LOCATIONS

THE DESIGN DETAILED ON THIS PLAN HAS BEEN PREPARED BASED ON SERVICE AUTHORITY AS CONSTRUCTED INFORMATION. NO POT HOLING HAS BEEN UNDERTAKEN TO VERIFY EXISTING SERVICES LOCATIONS AND DEPTHS. IT IS THE CONTRACTORS RESPONSIBILITY TO UNDERTAKE POT HOLING (HYDROVAC EXCAVATION) PRIOR TO COMMENCEMENT OF CONSTRUCTION.

LEGEND:

EXISTING STORMWATER DRAINAGE

FINISHED CONTOURS

PROPOSED STORMWATER DRAINAGE

PROPOSED ROOFWATER DRAINAGE

PROPOSED RETAINING WALL

SEWERAGE

WATER MAIN

ROOFWATER DRAINAGE KERB ADAPTORS (FULL DEPTH TYPE)

STRUCTURE NUMBERS

EXISTING / PROPOSED / FUTURE

TREE LEGEND

TREES TO BE RETAINED AND PROTECTED

TREES TO BE RETAINED AND REQUIRES THE SUPERVISION OF ANY EXCAVATION OR SERVICES WORKS WITHIN THE HATCHED PROTECTION ZONE BY AN ARBORIST ON SITE.

TPZ
Tree Protection Zone
All vegetation to be protected in accordance with AS4970 - Protection of Trees on Development Sites & any conditions of approval.

FOR CONTINUATION REFER BELOW RIGHT

FOR CONTINUATION REFER ABOVE LEFT

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LANDSCAPE ARCHITECTS

NORTH:

SCALE: 1:500 A1 — THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE 0 5 10 15 20 25 (A1) 1:500 50 Metres (A3) 1:1000

DO NOT SCALE FROM THIS DRAWING - USE ONLY DIMENSIONS PROVIDED - IF IN DOUBT PLEASE ENQUIRE

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DESIGNED	CDV
DRAWN	WN
CHECKED	PNH
DATUM: AHD	

ISSUE:

ISSUE:	DETAILS:	DATE:	INIT:
B	RFI AMENDMENTS	28/10/21	CDV
A	ISSUE FOR OPERATIONAL WORKS APPROVAL	16/09/21	CDV

TITLE:

DRAINAGE LAYOUT PLAN

DFC (PROJECT MANAGEMENT PTY LTD)

'ARCHERS WAY' ESTATE - STAGE 3
AT 22-80 CASH STREET, D'AGUILAR

DENNIS FAMILY CORPORATION

DETAILS:

JOB NO: M2584E_3
PLAN: D02 ISSUE: B
MORETON BAY REGIONAL COUNCIL REF: DA/38032/2019/V3VR
FILE NAME: DRAINAGE.DWG

13/12/2021 N:\M2584\SP\ACAD_STUFF\DESIGN\WORKING\DRAWINGS\DRAINAGE

	1/F	2/F	3/F	4/F	5/F	6/F	7/F	8/F	9/F	10/F	7/E
STRUCTURE NAME											
STRUCTURE DESCRIPTION	IPWEA ON-GRADE GULLY 4.8m LINTEL Type M3 K&C	IPWEA ON-GRADE GULLY 4.8m LINTEL Type M3 K&C ON 1050mm DIA MANHOLE	STD IPWEA MANHOLE 1050mm DIAMETER	IPWEA ON-GRADE GULLY 2.4m LINTEL Type M3 K&C	IPWEA ON-GRADE GULLY 2.4m LINTEL Type M3 K&C	STD IPWEA MANHOLE 1050mm DIAMETER	IPWEA SAG GULLY 2.4m LINTEL Type M3 K&C ON 1050mm DIA MANHOLE	STD MBRC MANHOLE 1100mm DIAMETER	STD IPWEA MANHOLE 1200mm DIAMETER	STD MBRC MANHOLE 1200mm DIMATER	STD IPWEA MANHOLE 2100mm DIAMETER
PIPE SIZE (mm) AND PIPE CLASS	375(2)	375(2)	375(2)	375(2)	450(2)	450(2)	675(2)	825(2)	1200 x 600 (RCBC)	1200 x 600 (RCBC)	
PIPE GRADE %	1.30%	0.50%	0.50%	3.36%	11.22%	2.33%	6.41%	0.63%	0.50%	0.50%	
PIPE SLOPE 1 in X	76.93	200.00	200.00	29.77	8.91	43.00	15.61	158.26	200.02	200.00	
FULL PIPE FLOW VELOCITY (m/s)		1.59	1.59	2.21	2.28	2.28	1.89	2.20	1.68	2.02	
PART FULL FLOW VELOCITY (m/s)	1.84			3.20	5.59	3.06	5.31				
DATUM RL 133.0										122.0	
WATER LEVEL IN STRUCTURE	150.662 14.9.886	14.9.397	14.8.546	14.6.177	14.5.097	14.3.173	14.2.522	14.1.837	14.1.555	14.1.225	
HYDRAULIC GRADE LEVEL	150.662 150.489 14.9.886	14.9.560 14.9.358	14.9.125 14.8.546	14.8.232 14.6.177	14.5.877 14.5.017	14.4.537 14.3.173	14.2.960 14.2.522	14.2.152 14.1.765	14.1.542 14.1.506	14.1.323 14.1.216	140.675
PIPE FLOW (Cumecs)	0.108	0.176	0.176	0.244	0.363	0.363	0.696	1.211	1.211	1.457	
PIPE CAPACITY AT GRADE (Cumecs)	0.200	0.124	0.124	0.321	0.954	0.434	2.211	1.189	1.340	1.341	
DEPTH TO INVERT	1.382 1.504	3.400 2.967	2.987 1.395	1.415 1.434	1.509 2.421	2.441 2.035	2.324 3.417	3.570 1.684	1.704 1.792	1.812 1.331	
INVERT LEVEL OF DRAIN	**150.292** **150.181**	**148.285** **148.184**	**148.164** **147.877**	147.857 145.502	145.427 144.107	144.087 142.564	142.275 141.281	141.128 140.754	140.734 140.690	140.670 140.580	
DESIGN SURFACE LEVEL	151.674 151.685	151.151	149.272	146.936	146.528	144.599	144.698	142.438	142.482	141.911	
STRUCTURE SETOUT CO-ORDINATES	E:480777.288 N:7014530.511	E:480768.867 N:7014532.770	E:480771.496 N:7014552.093	E:480714.507 N:7014559.595	E:480645.006 N:7014568.744	E:480633.342 N:7014570.279	E:480642.156 N:7014635.187	E:480641.926 N:7014650.710	E:480647.112 N:7014709.593	E:480639.635 N:7014714.091	E:480621.714 N:7014716.450
RUNNING CHAINAGE	0.000 8.583 8.583	20.096 28.679	57.481 86.160	70.101 156.261	11.765 168.026	65.504 233.530	15.525 249.055	59.111 308.166	8.726 316.892	18.076 334.968	

LINE F

FAUNA CULVERT 1500 x 750 RCBC (CL 0.45m)

PROPOSED 150 DIA WATERMAIN

PROPOSED 150 DIA WATERMAIN

3.361m

1.733m

4.798m

REMOVE BLANKED END AND CONNECT NEW LINE TO EXISTING PIPE

PROPOSED 150 DIA SEWER TWIN

PROPERTY CONNECTION

PROPOSED 150 DIA WATERMAIN

PROPOSED 150 DIA SEWER TWIN

PROPERTY CONNECTION

PROPOSED 150 DIA WATERMAIN

PROPOSED 150 DIA WATERMAIN

19.348m

22.203m

48.648m

8.347m

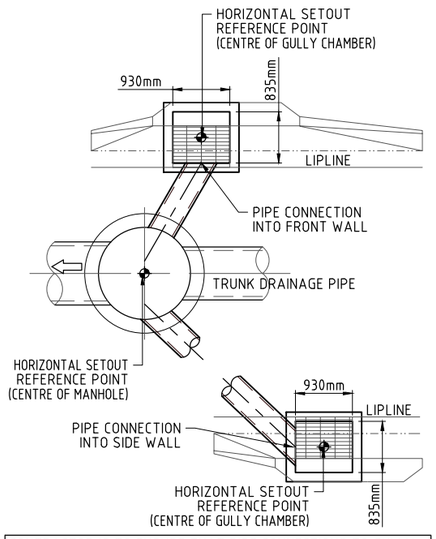
6.000m

STAGE 3

EXISTING

REFERENCE POINT LOCATION FOR STORMWATER DRAINAGE STRUCTURES

STRUCTURE TYPE	HORIZONTAL REFERENCE LOCATION (STRUCTURE SETOUT CO-ORDINATES)	VERTICAL REFERENCE LEVEL
MANHOLE AND ROOFWATER PIT	℄ MAIN SHAFT	FINISHED SURFACE LEVEL - MANHOLE/PIT COVER
KERB INLET LIP IN LINE (DS-063)	CENTRE OF GULLY CHAMBER	LIP OF KERB
FIELD INLET AND ROOFWATER PIT	CENTRE OF GULLY CHAMBER	TOP OF GRATE OR COVER
HEADWALL	℄ OF HEADWALL (END OF OUTLET PIPE)	INVERT OF OUTLET PIPE.



CONTRACTOR IS TO ENSURE THAT PIPE CONNECTIONS TO GULLY PITS ARE NOT CONSTRUCTED INTO THE CORNER OF TWO WALLS

GULLY PIT PIPE CONNECTION DETAIL

SCALE: NTS

NOTE: GRATED LIDS TO BE DEPRESSED 50mm BELOW FINISHED SURFACE LEVEL

REFER M2584E_3 D08 FOR ALLOWABLE STORMWATER PIPE CONSTRUCTION EQUIPMENT LOAD TABLE

Fire Ant Movement Controls

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URBAN DESIGNERS
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LANDSCAPE ARCHITECTS

NORTH:

SCALE: Horizontal 1:1000 Vertical 1:100 A1 — THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE (A1) 1:100 (A1) 1:1000 — DO NOT SCALE FROM THIS DRAWING - USE ONLY DIMENSIONS PROVIDED - IF IN DOUBT PLEASE ENQUIRE

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DESIGNED	CDV
DRAWN	WN
CHECKED	PNH
DATUM: AHD	

ISSUE:

ISSUE:	DETAILS:	DATE:	INIT:
B	RFI AMENDMENTS	01/11/21	CDV
A	ISSUE FOR OPERATIONAL WORKS APPROVAL	16/09/21	CDV

TITLE:

DRAINAGE LONGITUDINAL SECTIONS LINE F

DFC (PROJECT MANAGEMENT PTY LTD)

'ARCHERS WAY' ESTATE - STAGE 3
AT 22-80 CASH STREET, D'AGUILAR

DENNIS FAMILY CORPORATION

DETAILS:

JOB NO: M2584E_3
PLAN: D03 ISSUE: B
MORETON BAY REGIONAL COUNCIL REF: DA/38032/2019/V3VR
FILE NAME: DRAINAGE SECTIONS.DWG

	1/L	2/L	3/L	4/L	6/J	1A/3L	3/L	1A/4L	4/L	1B/4L	4/L
STRUCTURE NAME	IPWEA ON-GRADE GULLY	IPWEA ON-GRADE GULLY	IPWEA ON-GRADE GULLY	STD IPWEA MANHOLE	STD IPWEA MANHOLE	IPWEA ON-GRADE GULLY	IPWEA ON-GRADE GULLY	(FUTURE) IPWEA SAG GULLY	STD IPWEA MANHOLE	(FUTURE) IPWEA SAG GULLY	STD IPWEA MANHOLE
STRUCTURE DESCRIPTION	2.4m LINTEL Type M3 K&C	2.4m LINTEL Type B1(300) K&C	2.4m LINTEL Type B1(300) K&C ON 1050mm DIA MANHOLE	1500mm DIAMETER EXTENDED 600mm	1500mm DIAMETER EXTENDED 900mm	2.4m LINTEL Type M3 K&C	2.4m LINTEL Type B1(300) K&C ON 1050mm DIA MANHOLE	2.4m LINTEL Type M3 K&C	1500mm DIAMETER EXTENDED 600mm	2.4m LINTEL Type M3 K&C	1500mm DIAMETER EXTENDED 600mm
PIPE SIZE (mm) AND PIPE CLASS	375(2)	375(2)	450(2)	600(2)		375(2)		525(2)		525(2)	
PIPE GRADE %	0.50%	1.65%	2.60%	1.05%		8.67%		0.50%		0.47%	
PIPE SLOPE 1 in X	199.97	60.76	38.46	95.69		11.53		200.06		210.94	
FULL PIPE FLOW VELOCITY (m/s)		1.55	2.28	2.55		1.00		1.03		0.82	
PART FULL FLOW VELOCITY (m/s)	1.25	2.24	3.20			3.72					
DATUM						DATUM RL 136.0		DATUM RL 136.0		DATUM RL 136.0	
WATER LEVEL IN STRUCTURE	14.662	14.625	14.578	14.838	14.263	14.158	14.578	14.173	14.838	14.101	14.838
HYDRAULIC GRADE LEVEL	14.662	14.606 / 14.577	14.317 / 14.555	14.838 / 14.046	14.540 / 14.263	14.158	14.789 / 14.555	14.173 / 14.849	14.838 / 14.540	14.101 / 14.851	14.838 / 14.540
PIPE FLOW (Cumecs)	0.100	0.171	0.362	0.744		0.111		0.230		0.183	
PIPE CAPACITY AT GRADE (Cumecs)	0.124	0.225	0.459	0.656		0.516		0.318		0.310	
DEPTH TO INVERT	1.095	1.140 / 1.456	1.817 / 2.242	1.405	2.281	1.395	2.167	1.529	1.535	1.429	1.450
INVERT LEVEL OF DRAIN	149.303	149.258 / 148.942	148.021 / 147.596	145.086	144.703	148.414	147.671	144.977	144.955	145.077	145.040
DESIGN SURFACE LEVEL	150.398	150.398	149.838	146.490	146.984	149.809	149.838	146.506	146.490	146.506	146.490
STRUCTURE SETOUT CO-ORDINATES	E480845.487 N7014542.353	E480847.268 N7014533.480	E480902.765 N7014526.174	E480999.141 N7014520.256	E481105.980 N7014521.777	E480903.883 N7014534.666	E480902.765 N7014526.174	E480995.488 N7014522.607	E480999.141 N7014520.256	E480994.366 N7014514.086	E480999.141 N7014520.256
RUNNING CHAINAGE	0.000 / 9.050	9.050 / 65.026	55.976 / 161.584	96.558 / 178.492	16.908	0.000 / 8.565	8.565	0.000 / 4.344	4.344	0.000 / 7.802	7.802
LINE	L					1A3L		1A4L		1B4L	

PROPOSED 150 DIA SEWER TWIN PROPERTY CONNECTION

Sewer Line DN 150 (IL 147.67 approx)

PROPOSED 150 DIA SEWER TWIN PROPERTY CONNECTION

27.295m

47.058m

25.982m

END OF PIPE TO BE BLANKED OFF WITH 25mm MARINE PLY AND GEOFABRIC WRAPPED, FOR FUTURE UPSTREAM CONNECTION.

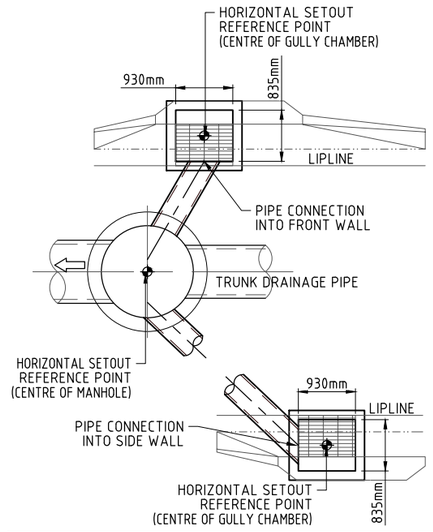
Fire Ant Movement Controls

To prevent the spread of fire ants, the Queensland Government has implemented controls that apply to individuals and commercial operators, to restrict the movement of materials that could carry fire ants including soil, turf, potted plants, mulch, baled hay or straw, animal manures, mining or quarry products.

Penalties apply for non-compliance with the movement controls, if you are unsure of your obligations under the Biosecurity Act 2014 contact the relevant Queensland State Government Department.

REFERENCE POINT LOCATION FOR STORMWATER DRAINAGE STRUCTURES

STRUCTURE TYPE	HORIZONTAL REFERENCE LOCATION (STRUCTURE SETOUT CO-ORDINATES)	VERTICAL REFERENCE LEVEL
MANHOLE AND ROOFWATER PIT	℄ MAIN SHAFT	FINISHED SURFACE LEVEL - MANHOLE/PIT COVER
KERB INLET LIP IN LINE (DS-063)	CENTRE OF GULLY CHAMBER	LIP OF KERB
FIELD INLET AND ROOFWATER PIT	CENTRE OF GULLY CHAMBER	TOP OF GRATE OR COVER
HEADWALL	℄ OF HEADWALL (END OF OUTLET PIPE)	INVERT OF OUTLET PIPE.



CONTRACTOR IS TO ENSURE THAT PIPE CONNECTIONS TO GULLY PITS ARE NOT CONSTRUCTED INTO THE CORNER OF TWO WALLS

GULLY PIT PIPE CONNECTION DETAIL

SCALE: NTS

NOTE: GRATED LIDS TO BE DEPRESSED 50mm BELOW FINISHED SURFACE LEVEL

REFER M2584E_3 D08 FOR ALLOWABLE STORMWATER PIPE CONSTRUCTION EQUIPMENT LOAD TABLE

DIAL BEFORE YOU DIG www.1100.com.au The Essential First Step

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LANDSCAPE ARCHITECTS

NORTH:

SCALE: Horizontal 1:1000 Vertical 1:100 — A1 — THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE (A1) 1:100 (A1) 1:1000 Metres

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APPROVED — FOR AND ON BEHALF OF JFP URBAN CONSULTANTS PTY LTD

T.McKINNEY RPEQ 5087 ☑ | A.FRASER RPEQ 5691 ☐ | J.PAPPAS RPEQ 6086 ☐ | S.MARSH RPEQ 8068 ☐ | H.WATSON RPEQ 6200 ☐

DESIGNED CDV | DRAWN WN | CHECKED PNH | DATUM: AHD

ISSUE:

ISSUE	DETAILS:	DATE:	INIT:
A	ISSUE FOR OPERATIONAL WORKS APPROVAL	16/09/21	CDV

TITLE:

DRAINAGE LONGITUDINAL SECTIONS LINE L, 1A3L, 1A4L & 1B4L

DFC (PROJECT MANAGEMENT PTY LTD)

'ARCHERS WAY' ESTATE - STAGE 3
AT 22-80 CASH STREET, D'AGUILAR

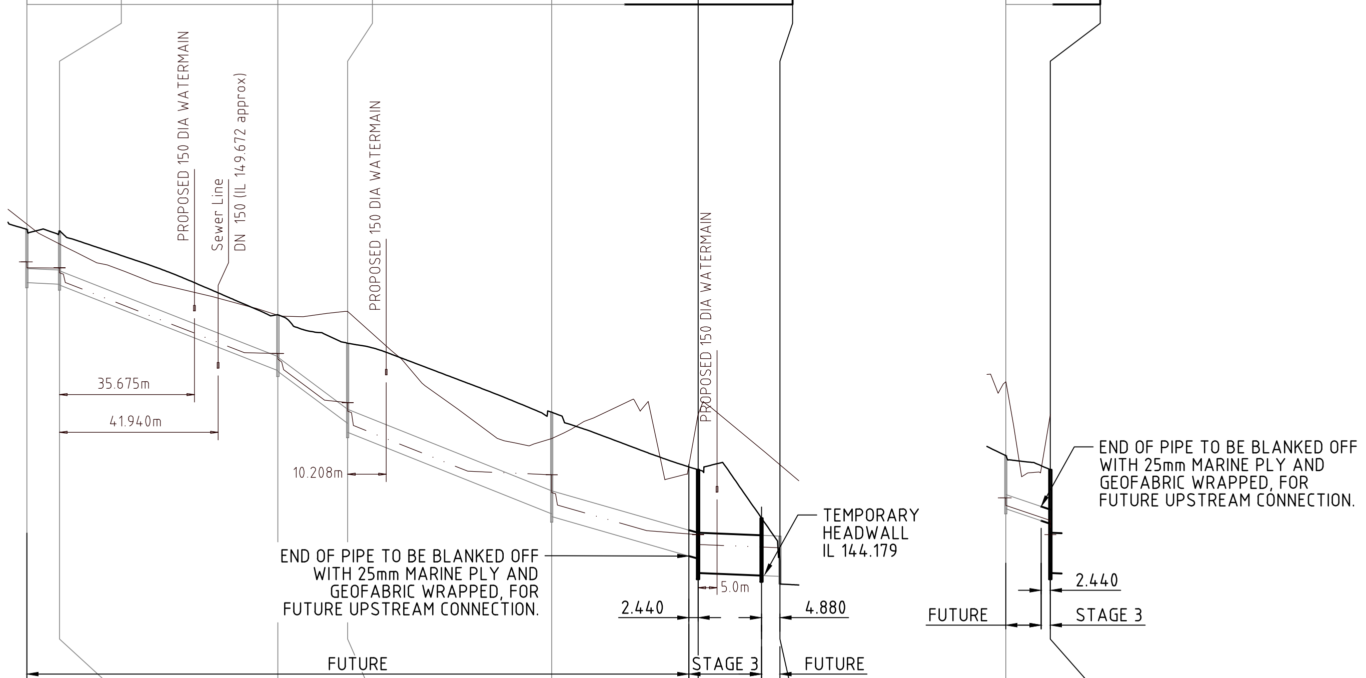
DENNIS FAMILY CORPORATION

DETAILS:

JOB NO: M2584E_3
PLAN: D04 ISSUE: A
MORETON BAY REGIONAL COUNCIL REF: DA/38032/2019/V3VR
FILE NAME: DRAINAGE SECTIONS.DWG

13/12/2021 N:\M2584\STAGE_3\DESIGN\WORKING\DRAWINGS\DRAINAGE SECTIONS

DRAINAGE LONGITUDINAL SECTIONS LINE J & 6J



DATUM RL 136.0

LINE J

STRUCTURE NAME	STRUCTURE DESCRIPTION	WATER LEVEL IN STRUCTURE	HYDRAULIC GRADE LEVEL	DEPTH TO INVERT	INVERT LEVEL OF DRAIN	DESIGN SURFACE LEVEL	STRUCTURE SETOUT CO-ORDINATES	RUNNING CHAINAGE
1/J	IPWEA ON-GRADE GULLY 2.4m LINTEL Type M3 K&C	152.485	152.485 / 152.331	1.415	151.934	153.349	E480938.748 N7014616.818	0.000
2/J	IPWEA ON-GRADE GULLY 2.4m LINTEL Type M3 K&C	152.331	152.320 / 152.248	1.415 / 1.435	151.893 / 151.873	153.308	E480938.672 N7014608.159	8.659
3/J	IPWEA ON-GRADE GULLY 2.4m LINTEL Type M3 K&C	150.060	150.060 / 149.961	1.480 / 1.500	149.606 / 149.586	151.086	E480996.399 N7014609.894	66.412
4/J	STD IPWEA MANHOLE 1050mm DIAMETER	148.760	148.760 / 148.585	2.122 / 2.357	148.210 / 147.975	150.332	E481014.535 N7014613.260	84.858
5/J	IPWEA ON-GRADE GULLY 2.4m LINTEL Type M3 K&C ON 1050mm DIA MANHOLE	146.849	146.849 / 146.426	2.690 / 2.765	145.816 / 145.741	148.506	E481022.643 N7014559.906	138.825
6/J	STD IPWEA MANHOLE 1500mm DIAMETER EXTENDED 900mm	145.263	145.263 / 145.002	2.356 / 2.737	144.628 / 144.247	146.984	E481015.980 N7014521.777	177.532
7/J	OUTLET HEADWALL to SEDIMENT FOREBAY	144.916	144.916	1.250	144.160	145.41	E481037.445 N7014518.950	199.182

PIPE	PIPE SIZE (mm) AND PIPE CLASS	PIPE GRADE %	PIPE SLOPE 1 in X	FULL PIPE FLOW VELOCITY (m/s)	PART FULL FLOW VELOCITY (m/s)	PIPE FLOW (Cumecs)	PIPE CAPACITY AT GRADE (Cumecs)	LENGTH
1/J – 2/J	375(2)	0.48%	210.49	0.57		0.063	0.121	8.659
2/J – 3/J	375(2)	3.93%	25.48	0.77	2.60	0.085	0.347	57.753
3/J – 4/J	375(2)	7.46%	13.40	1.62	4.02	0.179	0.479	18.446
4/J – 5/J	600(2)	4.00%	25.00	1.43	3.92	0.418	1.283	53.967
5/J – 6/J	675(2)	2.88%	34.76		4.06	0.773	1.482	38.707
6/J – 7/J	1050(2)	0.40%	250.02		2.26	1.529	1.797	21.650

LINE 6J

DATUM RL 136.0

STRUCTURE NAME	STRUCTURE DESCRIPTION	WATER LEVEL IN STRUCTURE	HYDRAULIC GRADE LEVEL	DEPTH TO INVERT	INVERT LEVEL OF DRAIN	DESIGN SURFACE LEVEL	STRUCTURE SETOUT CO-ORDINATES	RUNNING CHAINAGE
1A/6J	IPWEA ON-GRADE GULLY 2.4m LINTEL Type M3 K&C	146.239	146.239 / 146.040	1.409	145.951	147.360	E481010.500 N7014532.227	0.000
6/J	STD IPWEA MANHOLE 1500mm DIAMETER EXTENDED 900mm	145.263	145.263 / 145.002	1.432	145.552	146.984	E481015.980 N7014521.777	11.800

PIPE	PIPE SIZE (mm) AND PIPE CLASS	PIPE GRADE %	PIPE SLOPE 1 in X	FULL PIPE FLOW VELOCITY (m/s)	PART FULL FLOW VELOCITY (m/s)	PIPE FLOW (Cumecs)	PIPE CAPACITY AT GRADE (Cumecs)	LENGTH
1A/6J – 6/J	375(2)	3.38%	29.58		1.98	0.040	0.322	11.800

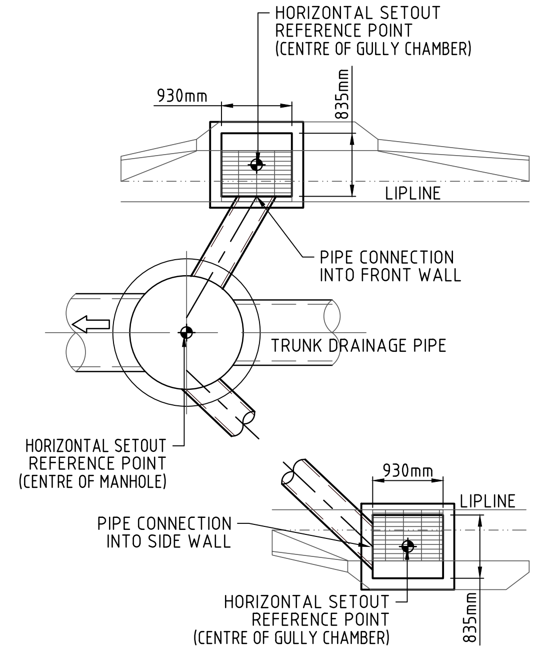
Fire Ant Movement Controls

To prevent the spread of fire ants, the Queensland Government has implemented controls that apply to individuals and commercial operators, to restrict the movement of materials that could carry fire ants including soil, turf, potted plants, mulch, baled hay or straw, animal manures, mining or quarry products.

Penalties apply for non-compliance with the movement controls. if you are unsure of your obligations under the Biosecurity Act 2014 contact the relevant Queensland State Government Department.

REFERENCE POINT LOCATION FOR STORMWATER DRAINAGE STRUCTURES

STRUCTURE TYPE	HORIZONTAL REFERENCE LOCATION (STRUCTURE SETOUT CO-ORDINATES)	VERTICAL REFERENCE LEVEL
MANHOLE AND ROOFWATER PIT	℄ MAIN SHAFT	FINISHED SURFACE LEVEL - MANHOLE/PIT COVER
KERB INLET LIP IN LINE (DS-063)	CENTRE OF GULLY CHAMBER	LIP OF KERB
FIELD INLET AND ROOFWATER PIT	CENTRE OF GULLY CHAMBER	TOP OF GRATE OR COVER
HEADWALL	℄ OF HEADWALL (END OF OUTLET PIPE)	INVERT OF OUTLET PIPE.



CONTRACTOR IS TO ENSURE THAT PIPE CONNECTIONS TO GULLY PITS ARE NOT CONSTRUCTED INTO THE CORNER OF TWO WALLS

GULLY PIT PIPE CONNECTION DETAIL

SCALE: NTS

NOTE: GRATED LIDS TO BE DEPRESSED 50mm BELOW FINISHED SURFACE LEVEL

REFER M2584E_3 D08 FOR ALLOWABLE STORMWATER PIPE CONSTRUCTION EQUIPMENT LOAD TABLE

DIAL BEFORE YOU DIG www.1100.com.au The Essential First Step

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NORTH:

SCALE: Horizontal 1:1000 Vertical 1:100 — THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE — A1 — (A1) 1:100 0 1 2 3 4 5 10 Metres — (A1) 1:1000 0 10 20 30 40 50 100

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DESIGNED	CDV
DRAWN	WN
CHECKED	PNH
DATUM: AHD	

ISSUE	DETAILS	DATE	INIT
A	ISSUE FOR OPERATIONAL WORKS APPROVAL	16/09/21	CDV

TITLE: DRAINAGE LONGITUDINAL SECTIONS LINE J & 6J

DFC (PROJECT MANAGEMENT PTY LTD)

'ARCHERS WAY' ESTATE - STAGE 3
AT 22-80 CASH STREET, D'AGUILAR

DENNIS FAMILY CORPORATION

DETAILS: JOB NO: M2584E_3 PLAN: D05 ISSUE: A

MORETON BAY REGIONAL COUNCIL REF: DA/38032/2019/V3VR

FILE NAME: DRAINAGE SECTIONS.DWG

15/11/2021 N:\M2584\STAGE_3\DESIGN\WORKING DRAWINGS\DRAINAGE SECTIONS

LOCATION					TIME			SUB-CATCHMENT RUNOFF							INLET DESIGN							DRAIN DESIGN															HEADLOSSES								PART FULL		DESIGN LEVELS							
						tc	I	C10	C	A	C×A	+CA	Q					Qg	Qb		tc	I	+CA	Qt	Qm	Qs	Qp	L	S		V	T			V2/2g	Ku	hu	Kl	hl	Kw	hw	Sf	hf		Vp							
DESIGN ARI	STRUCTURE No.	DRAIN SECTION	SUB-CATCHMENTS CONTRIBUTING	LAND USE	SLOPE OF CATCHMENT	SUB-CATCHMENT TIME OF CONC.	RAINFALL INTENSITY	10yr RUNOFF CO-EFFICIENT	CO-EFFICIENT OF RUNOFF	SUB-CATCHMENT AREA	EQUIVALENT AREA	SUM OF (C × A)	SUB-CATCHMENT DISCHARGE	FLOW IN K&C (INC. BYPASS)	ROAD GRADE AT INLET	MINOR FLOW ROAD CAPACITY	INLET TYPE	FLOW INTO INLET	BYPASS FLOW	BYPASS STRUCTURE No.	CRITICAL TIME OF CONC.	RAINFALL INTENSITY	TOTAL (C × A)	MAJOR TOTAL FLOW	MAJOR SURFACE FLOW CAPACITY	MAJOR SURFACE FLOW	PIPE FLOW	REACH LENGTH	PIPE GRADE	PIPE / BOX DIMENSIONS (CLASS)	FLOW VELOCITY	TIME OF FLOW IN REACH	STRUCTURE CHART No.	STRUCTURE RATIOS FOR 'K' VALUE CALCULATIONS	VELOCITY HEAD	U/S HEADLOSS COEFFICIENT	U/S PIPE STRUCT. HEADLOSS	LAT. HEADLOSS CO-EFFICIENT	LAT. PIPE STRUCT. HEADLOSS	W.S.E CO-EFFICIENT	CHANGE IN W.S.E	PIPE FRICTION SLOPE	PIPE FRICTION HEADLOSS (L × Sf)	DEPTH	VELOCITY	OBVERT LEVELS	DRAIN SECTION H.G.L	UPSTREAM H.G.L	LAT. H.G.L	W.S.E.	SURFACE OR K&C INVERT LEVEL	STRUCTURE No.
yrs					%	min	mm/h			ha	ha	ha	l/s	l/s	%	l/s		l/s	l/s		min	mm/h	ha	l/s	l/s	l/s	l/s	m	%	mm	m/s	min			m		m		m		m		m	m/s	m	m	m	m	m	m	
10 100	3/J	3/J to 4/J	1/J;2/J;1A/3J; 3/J	ROAD/VERGE		5.00 5.00	216 329		0.88 1.00	0.044	0.038 0.044	0.038 0.044	23 40	23 FLOW	4.92 WIDTH 0.702	710 (0.000	1 3 month)	23	0	1A/6J	11.10 11.10	161 244	0.471 0.536	363	(Pipe flow= Sum upstr		179	18.446 atten flows)	7.46	375(2)	1.62	0.19		Qg 0.017 Qo 0.179 Do 375 Routine 2.15 Join Pipes: 2/J and 1A/3J Vel1 0.742 Vel2 0.722 Eq Dia 530 Angle 205 Flow 0.162	0.134	0.74	0.099		CHART 34 Angle 25 Case3 S/Do 2.5 Du/Do 1.41 Qg/Qo 0.10 K 0.60 S/Do 1.26 cor 0.14 Ku 0.74 Kw 0.74	0.74	0.099	1.04	0.192	0.159	4.02	149.961 148.585	149.961 148.760	150.060		150.060	151.086	3/J
10 100	4/J	4/J to 5/J	1/P,2/P;1/J,2 /J;1A/3J;3/J	MH													41				11.29 11.29	160 242	0.940 1.069	719	1235 (Pipe flow= Sum upstr	301	418 atten flows)	53.967	4.00	600(2)	1.43	0.63		Qo 0.418 Do 600 Routine 2.14 Equiv defln 0 CHART 4.9 High vel lat 3/J Dhv 375 Qhv 0.178 Dhv/Dlv 0.8 Dhv/Do 0.63 Qhv/Qo 0.42 H 3.02 Low vel latrl 2/P Dlv 450 Qlv 0.240 Dlv/Do 0.75 Qlv/Qo 0.58 L 1.14 H-L 1.88 No grate flow: H-L-0.2 = 1.68	0.104	1.68	0.175		Ku=Kw= 1.68 Combined pipes in line case Join Pipes: 2/P and 3/J Vel1 1.607 Vel2 1.511 Eq Dia 585 Angle 191 Flow 0.418 CHART 50 Du/Do 0.98 alpha 0 K'w 0.05 Vu 1.55 WSE 0.03 Ku 0.19 Kw 0.25 Interpolated Ku= 1.68 Kw= 1.68	1.68	0.175	0.42	0.229	0.239	3.92	148.585 146.426	148.585 146.849	148.760		148.760	150.332	4/J
10 100	5/J	5/J to 6/J	RW87/K,RW8 6/K,RW85/K; RW84/K,RW8 3/K,RW82/K; RW81/K,RW79 /K,RW70/Q,R W71/Q;RW72/ Q;RW74/Q;1/ P;2/P;1/J;2/J; 1A/3J;3/J;5/J	ROAD/ALLOT		10.00 10.00	168 254		0.88 1.00	0.120	0.106 0.120	0.106 0.120	49 85	49 FLOW	19.27 WIDTH 0.545	1320 (0.000	4 3 month)	37	13	1B/7M	11.92 11.92	156 237	1.808 2.025	1333	(Pipe flow= Sum upstr		773 atten flows)	38.707	2.88	675(2)	2.10	0.31		Qg 0.034 Qo 0.773 Do 675 Flow RW79/K made eqv grate flow Routine 2.19 CHART 4.8 Du/Do 0.89 Qu/Qo 0.53 K 1.29 d/Do 2.0 chrt Qg/Qo 0.28 Kg 0.43 d/Do 1.5 chrt Qg/Qo 0.28 Kg 0.51 d/Do 1.00 Interp value Kg 0.59 Ku=Kw= 1.88 Combined pipes in line case Join Pipes:	0.225	1.88	0.423		RW74/Q and 4/J Vel1 1.441 Vel2 1.341 Eq Dia 707 Angle 178 Flow 0.555 CHART 33 Angle 0 S/Do 2.5 Du/Do 1.05 Qg/Qo 0.28 K 1.03 S/Do 1.45 cor 0.33 Ku 1.36 Kw 1.36 Interpolated Ku= 1.88 Kw= 1.88 K vals above for stepped pipes as grate flow	1.88	0.423	0.78	0.303	0.351	4.06	146.426 145.313	146.426 145.263	146.849		146.849	148.506	5/J
10 100	1A/3L	1A/3L to 3/L	1A/3L	ROAD/ALLOT		10.00 10.00	168 254		0.88 1.00	0.291	0.256 0.291	0.256 0.291	119 205	146 FLOW	1.00 WIDTH 2.687	320 (0.000	1 3 month)	111	35	1A/4L	10.00 10.00	168 254	0.256 0.291	205		(Pipe flow= Grate	111 flow)	8.565	8.67	375(2)	1.00	0.14		Qg 0.111 Qo 0.111 Do 375 CHRT 32: Vo2/2gDo 0.14 H/Do 0.00 Kg side flow 7.23 end flow 5.64	0.051	7.23	0.369			7.23	0.369	0.40	0.034	0.118	3.72	148.789 148.046	148.789 148.555	149.158		149.158	149.809	1A/3L
10 100	3/L	3/L to 4/L	1/L;2/L;1A/3L ;3/L	ROAD/ALLOT		10.00 10.00	168 254		0.88 1.00	0.250	0.220 0.250	0.220 0.250	103 177	116 FLOW	1.00 WIDTH 2.423	301 (0.000	4 3 month)	90	27	1B/4L	10.75 10.75	163 247	0.931 1.058	726	(Pipe flow= Sum upstr		362 atten flows)	96.558	2.60	450(2)	2.28	0.71		Qg 0.087 Qo 0.362 Do 450 Flow 2/L made eqv grate flow Angle 94 Chart 47 S/Do 2.5 chartdeg Du/Do 0.83 K0 2.07 K0.5 2.30 Qu/Qo 0.30 Cg 1.21 K 2.34 S/Do 2.5 K0 2.07 K0.5 2.30 K 2.34 S/Do 2.0 K0 2.48 K0.5 2.40 K 2.38 Interp val for S/Do 2.39 Kw 2.35 CHART 4.6 S/Do 2.5 K0 1.67 K0.5 2.01 K 2.08 S/Do 2.0 K0 1.97 K0.5 2.02 K 2.03 Interp val for S/Do 2.39 Ku 2.07 K vals above for stepped pipes as grate flow grate flow decreased by 0.167 from 2/L Routine 2.2 CHART 4.8 Du/Do 0.83 Qu/Qo 0.46 K 1.38	0.265	1.92	0.509		d/Do 2.0 chrt Qg/Qo 0.24 Kg 0.32 d/Do 1.5 chrt Qg/Qo 0.24 Kg 0.38 d/Do 1.00 Interp value Kg 0.44 Ku=Kw= 1.82 Combined pipes in line case Join Pipes: 1A/3L and 2/L Vel1 1.515 Vel2 0.974 Eq Dia 518 Angle 218 Flow 0.275 CHART 33 Angle 0 S/Do 2.5 Du/Do 1.15 Qg/Qo 0.24 K 0.92 S/Do 1.67 cor 0.21 Ku 1.13 Kw 1.13 Interpolated Ku= 1.85 Kw= 1.85 K vals step pipes as pipe flow Ku 1.85 Kw 1.85 Averaged Ku 1.92 Kw 2.01	2.01	0.532	1.61	1.558	0.301	3.20	148.046 145.536	148.046 145.838	148.555		148.578	149.838	3/L
10 100	1A/4L	1A/4L to 4/L	1A/4L	ROAD/ALLOT		10.00 10.00	168 254		0.88 1.00	0.442	0.389 0.442	0.389 0.442	182 312	230 FLOW	0.00 WIDTH 3.086	282 (0.000	13S.111 3 month)	230	0		10.00 10.00	168 254	0.389 0.442	312		(Pipe flow= Grate	230 flow)	4.344	0.50	525(2)	1.03	0.07		Qg 0.230 Qo 0.230 Do 525 CHRT 32: Vo2/2gDo 0.10 H/Do 0.63 Kg side flow 5.98 end flow 4.61	0.054	5.98	0.324			5.98	0.324	0.26	0.011			145.511 145.489	145.849 145.838	146.173		146.173	146.506	1A/4L
10 100	1B/4L	1B/4L to 4/L	1B/4L	ROAD/ALLOT		10.00 10.00	168 254		0.88 1.00	0.379	0.334 0.379	0.334 0.379	156 267	183 FLOW	0.00 WIDTH 2.660	282 (0.000	13S.111 3 month)	183	0		10.00 10.00	168 254	0.334 0.379	267		(Pipe flow= Grate	183 flow)	7.802	0.47	525(2)	0.82	0.13		Qg 0.183 Qo 0.183 Do 525 CHRT 32: Vo2/2gDo 0.06 H/Do 0.45 Kg side flow 7.30 end flow 5.49	0.034	7.30	0.250			7.30	0.250	0.17	0.013			145.611 145.574	145.851 145.838	146.101		146.101	146.506	1B/4L
10 100	4/L	4/L to 6/J	1/L,2/L;1A/3L ;3/L;1A/4L;1B /4L	MH													45				11.46 11.46	159 241	1.654 1.879	1258	2290 (Pipe flow= Sum upstr	514	744 atten flows)	16.908	1.05	600(2)	2.55	0.11		Qo 0.744 Do 600 Routine 3.2 Join Pipes: 1A/4L and 3/L Vel1 1.007 Vel2 2.219 Eq Dia 643 Angle 200 Flow 0.571 Routine 2.21 CHART 52 B 900 In line Eqv 1A/4L & 3/L Latrl 1B/4L Determine Kl Dl/Do 0.88 B/Do 1.50 Qu/Qo 0.77 Do/Du 0.93 Do/Dl 1.14 K'l 1.53 Ml 0.53 Kl=K'l×Ml= 0.81	0.331	0.90	0.298	Determine Ku K'u 1.83 Mu 0.49 Kw=Ku= 0.90 Combined pipes in line case Join Pipes: Eqv 1A/4L & 3/L and 1B/4L Vel1 1.758 Vel2 0.799 Eq Dia 785 Angle 184 Flow 0.744 CHART 50 Du/Do 1.31 alpha 0 K'w 0.05 Vu 1.54 WSE 0.31 Ku 0.91 Kw 0.93 Interpolated Ku= 0.90 Kw= 0.90	0.90 Ku=K'u×Mu= 0.90	0.298	1.35	0.228			145.489 145.313	145.540 145.313	145.838		145.838	146.490	4/L
10 100	1/L	1/L to 2/L	1/L	ROAD/ALLOT		10.00 10.00	168 254		0.88 1.00	0.307	0.270 0.307	0.270 0.307	126 216	126 FLOW	1.00 WIDTH 2.524	320 (0.000	1 3 month)	100	26	1A/3L	10.00 10.00	168 254	0.270 0.307	217		(Pipe flow= Grate	100 flow)	9.050	0.50	375(2)	0.90	0.15		Qg 0.100 Qo 0.100 Do 375 CHRT 32: Vo2/2gDo 0.11 H/Do 0.00 Kg side flow 7.72 end flow 5.93 Part full downstream pipe	0.041	1.00	0.056		Upstream HGL 149.662 below outlet pipe obv 149.678 Set Kp to 1	1.00	0.056	0.33	0.029	0.255	1.25	149.678 149.633	149.606 149.577	149.662		149.662	150.398	1/L
10 100	2/L	2/L to 3/L	1/L,2/L	ROAD/ALLOT		10.00 10.00	168 254		0.88 1.00	0.210	0.185 0.210	0.185 0.210	86 148	86 FLOW	1.00 WIDTH 2.101	301 (0.000	4 3 month)	73	14	3/L	10.15 10.15	167 253	0.455 0.517	363	(Pipe flow= Sum upstr		171 atten flows)	55.976	1.65	375(2)	1.55	0.60		Qg 0.072 Qo 0.171 Do 375 Flow 1/L made eqv grate flow CHRT 32: Vo2/2gDo 0.33 H/Do 0.00 Kg side flow 4.69 end flow 4.00 K vals above for stepped pipes as grate flow grate flow decreased by 0.099 from 1/L Angle 72 Chart 45 S/Do 2.5 chartdeg Du/Do 1.00 K0 2.16 K0.5 1.81 Qu/Qo 0.58 Cg 0.88 K 1.85	0.122	2.12	0.260		S/Do 2.0 K0 2.47 K0.5 2.34 K 2.36 S/Do 1.5 K0 2.74 K0.5 2.80 K 2.80 Interp val for S/Do 1.82 Kw 2.51 CHART 44 S/Do 2.0 K0 1.99 K0.5 2.11 K 2.10 S/Do 1.5 K0 2.12 K0.5 2.17 K 2.16 Interp val for S/Do 1.82 Ku 2.12 K vals step pipes as pipe flow Ku 2.12 Kw 2.51	2.51	0.308	0.96	0.536	0.245	2.24	149.317 148.396	149.317 148.555	149.577		149.625	150.398	2/L
10 100	1/F	1/F to 2/F	1/F	ROAD/ALLOT		10.00 10.00	168 254		0.88 1.00	0.315	0.277 0.315	0.277 0.315	129 222	129 FLOW	3.33 WIDTH 1.952	584 (0.000	1 3 month)	92	38		10.00 10.00	168 254	0.277 0.315	222		(Pipe flow= Grate	92 flow)	8.583	0.93	375(2)	0.83	0.14		Qg 0.092 Qo 0.092 Do 375 CHRT 32: Vo2/2gDo 0.09 H/Do 0.34 Kg side flow 6.97 end flow 5.37	0.035	6.97	0.244			6.97	0.244	0.27	0.024			150.636 150.556	150.762 150.738	151.006		151.006	151.674	1/F
10 100	2/F	2/F to 3/F	1/F,2/F	ROAD/ALLOT		10.00 10.00	168 254		0.88 1.00	0.171	0.150 0.171	0.150 0.171	70 120	70 FLOW	3.33 WIDTH 1.371	549 (0.000	1 3 month)	59	11	1A/5F	10.14 10.14	167 253	0.427 0.486	342	(Pipe flow= Sum upstr		149 atten flows)	20.096	2.62	375(2)	1.35	0.25		Qg 0.058 Qo 0.149 Do 375 Angle 87 Chart 47 S/Do 2.5 chartdeg Du/Do 1.00 K0 1.92 K0.5 2.12 Qu/Qo 0.61 Cg 0.84 K 2.09 S/Do 2.0 K0 2.44 K0.5 2.40 K 2.41 S/Do 1.5 K0 2.67 K0.5 2.58 K 2.60	0.093	2.18	0.202		Interp val for S/Do 1.63 Kw 2.55 CHART 4.6 S/Do 2.0 K0 2.04 K0.5 1.92 K 1.94 S/Do 1.5 K0 2.09 K0.5 2.31 K 2.27 Interp val for S/Do 1.63 Ku 2.18	2.55	0.237	0.73	0.146	0.193	2.60	150.536 150.010	150.536 150.158	150.738		150.773	151.685	2/F
10 100	3/F	3/F to 4/F	1/F,2/F	MH													41				10.39 10.39	165 250	0.427 0.486	338	1109 (Pipe flow= Sum upstr	188	149 atten flows)	57.481	3.02	375(2)	1.35	0.71		Qo 0.149 Do 375 CHART 50 Du/Do1.00 alpha 91 K'w 0.30 Vu 1.35 WSE 0.20 Ku 1.81 Kw 2.11	0.093	1.81	0.168			2.11	0.196	0.73	0.418	0.185	2.74	149.990 148.252	149.990 148.514	150.158		150.186	151.151	3/F
10 100	4/F	4/F to 5/F	1/F,2/F;4/F	ROAD/ALLOT		10.00 10.00	168 254		0.88 1.00	0.247	0.217 0.247	0.217 0.247	101 174	101 FLOW	4.50 WIDTH 1.623	679 (0.000	1 3 month)	76	26	5/F	11.10 11.10	161 244	0.644 0.733	497	(Pipe flow= Sum upstr		218 atten flows)	70.101	3.36	375(2)	1.98	0.59		Qg 0.072 Qo 0.218 Do 375 CHART 33 Angle 0 S/Do 2.5 Du/Do 1.00 Qg/Qo 0.33 K 1.16 S/Do 1.75 cor 0.25 Ku 1.41 Kw 1.41	0.200	1.41	0.282			1.41	0.282	1.55	1.088	0.227	3.13	148.232 145.877	148.232 146.179	14						

NORTH:

SCALE:
NOT TO SCALE
THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE
A1
DO NOT SCALE FROM THIS DRAWING - USE ONLY DIMENSIONS PROVIDED - IF IN DOUBT PLEASE ENQUIRE

APPROVED
FOR AND ON BEHALF OF JFP URBAN CONSULTANTS PTY LTD
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DESIGNED	CDV
DRAWN	WN
CHECKED	PNH
DATUM: AHD	

ISSUE:

ISSUE:	DETAILS:	DATE:	INIT:
A	ISSUE FOR OPERATIONAL WORKS APPROVAL	16/09/21	CDV

TITLE:
DRAINAGE CALCULATIONS TABLES - SHEET 1 OF 2
DFC (PROJECT MANAGEMENT PTY LTD)
'ARCHERS WAY' ESTATE - STAGE 3
AT 22-80 CASH STREET, D'AGUILAR

DETAILS:
JOB NO: M2584E_3
PLAN: D06 ISSUE: A
MORETON BAY REGIONAL COUNCIL REF: DA/38032/2019/V3VR
FILE NAME: DRAINAGE SECTIONS.DWG

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15/11/2021 N:\M2584\STAGE_3\DESIGN\WORKING\DRAWINGS\DRAINAGE SECTIONS

LOCATION					TIME			SUB-CATCHMENT RUNOFF							INLET DESIGN							DRAIN DESIGN														HEADLOSSES								PART FULL			DESIGN LEVELS							
						tc	I	C10	C	A	C×A	+CA	Q					Qg	Qb		tc	I	+CA	Qt	Qm	Qs	Qp	L	S		V	T			V2/2g	Ku	hu	Kl	hl	Kw	hw	Sf	hf		Vp							
DESIGN ARI	STRUCTURE No.	DRAIN SECTION	SUB-CATCHMENTS CONTRIBUTING	LAND USE	SLOPE OF CATCHMENT	SUB-CATCHMENT TIME OF CONC.	RAINFALL INTENSITY	10yr RUNOFF CO-EFFICIENT	CO-EFFICIENT OF RUNOFF	SUB-CATCHMENT AREA	EQUIVALENT AREA	SUM OF (C × A)	SUB-CATCHMENT DISCHARGE	FLOW IN K&C (INC. BYPASS)	ROAD GRADE AT INLET	MINOR FLOW ROAD CAPACITY	INLET TYPE	FLOW INTO INLET	BYPASS FLOW	BYPASS STRUCTURE No.	CRITICAL TIME OF CONC.	RAINFALL INTENSITY	TOTAL (C × A)	MAJOR TOTAL FLOW	MAJOR SURFACE FLOW CAPACITY	MAJOR SURFACE FLOW	PIPE FLOW	REACH LENGTH	PIPE GRADE	PIPE / BOX DIMENSIONS (CLASS)	FLOW VELOCITY	TIME OF FLOW IN REACH	STRUCTURE CHART No.	STRUCTURE RATIOS FOR 'K' VALUE CALCULATIONS	VELOCITY HEAD	U/S HEADLOSS COEFFICIENT	U/S PIPE STRUCT. HEADLOSS	LAT. HEADLOSS CO-EFFICIENT	LAT. PIPE STRUCT. HEADLOSS	W.S.E CO-EFFICIENT	CHANGE IN W.S.E	PIPE FRICTION SLOPE	PIPE FRICTION HEADLOSS (L × Sf)	DEPTH	VELOCITY	OBVERT LEVELS	DRAIN SECTION H.G.L	UPSTREAM H.G.L	LAT. H.G.L	W.S.E.	SURFACE OR K&C INVERT LEVEL	STRUCTURE No.
yrs					%	min	mm/h			ha	ha	ha	l/s	l/s	%	l/s		l/s	l/s		min	mm/h	ha	l/s	l/s	l/s	l/s	m	%	mm	m/s	min			m		m							m/s	m	m	m	m	m	m	
10 100	1A/5F	1A/5F to 5/F	1A/5F	ROAD/ALLOT		10.00 10.00	168 254		0.88 1.00	0.127	0.111 0.127	0.111 0.127	52 89	63 FLOW WIDTH 1.289	3.33	549 (0.000	4 3 month)	54	9	1/7F	10.00 10.00	168 254	0.111 0.127	90			54 (Pipe flow=	8.565 Grate flow)	0.40	375(2)	0.49	0.14		Qg 0.054 Qo 0.054 Do 375 CHRT 32: Vo2/2gDo 0.03 H/Do 0.82 Kg side flow 6.71 end flow 4.91	0.012	6.71	0.082			6.71	0.082	0.09	0.008			145.878 145.844	146.187 146.179	146.269		146.269	146.965	1A/5F
10 100	5/F	5/F to 6/F	1/F;2/F;4/F;1A/5F;5/F	ROAD/ALLOT		10.00 10.00	168 254		0.88 1.00	0.217	0.191 0.217	0.191 0.217	89 153	115 FLOW WIDTH 1.723	4.50	679 (0.000	1 3 month)	83	32	7/F	11.69 11.69	158 239	0.946 1.077	715			342 (Pipe flow=	11.765 Sum upstr	11.22 atten flows)	450(2)	2.15	0.09		Qg 0.078 Qo 0.342 Do 450 Routine 2.1 CHART 48 Du/Do 0.83 Qu/Qo 0.63 K 0.88 d/Do 2.0 chrt Qg/Qo 0.23 Kg 0.30 d/Do 1.5 chrt Qg/Qo 0.23 Kg 0.35 d/Do 1.00 Interp value Kg 0.40 Ku=Kw= 1.28 Combined pipes in line case Join Pipes:	0.236	1.28	0.302	4/F and 1A/5F Vel1 1.939 Vel2 0.457 Eq Dia 451 Angle 197 Flow 0.265 CHART 33 Angle 0 S/Do 2.5 Du/Do 1.00 Qg/Qo 0.23 K 0.89 S/Do 1.58 cor 0.22 Ku 1.11 Kw 1.11 Interpolated Ku= 1.28 Kw= 1.28		1.28 4/F and 1A/5F Vel1 1.939 Vel2 0.457 Eq Dia 451 Angle 197 Flow 0.265 CHART 33 Angle 0 S/Do 2.5 Du/Do 1.00 Qg/Qo 0.23 K 0.89 S/Do 1.58 cor 0.22 Ku 1.11 Kw 1.11 Interpolated Ku= 1.28 Kw= 1.28	0.302	1.44	0.170	0.186	5.51	145.877 144.557	145.877 144.964	146.179		146.179	146.936	5/F
10 100	6/F	6/F to 7/F	1/F;2/F;4/F;1A/5F;5/F	MH													41				11.78 11.78	157 238	0.946 1.077	712	1358	370 (Pipe flow=	342 Sum upstr	65.504 atten flows)	2.33	450(2)	2.15	0.51		Qo 0.342 Do 450 CHART 50 Du/Do1.00 alpha 91 K'w 0.30 Vu 2.15 WSE 0.50 Ku 1.81 Kw 2.11	0.236	1.81	0.427			2.11	0.498	1.44	0.946	0.301	3.03	144.537 143.014	144.537 143.175	144.964		145.035	146.528	6/F
10 100	1/7F	1/7F to 7/F	8/F	ROAD/ALLOT		10.00 10.00	168 254		0.88 1.00	0.386	0.340 0.386	0.340 0.386	159 273	168 FLOW WIDTH 2.514	0.00	282 (0.000	13S.111 3 month)	168	0		10.00 10.00	168 254	0.340 0.386	272			168 (Pipe flow=	8.596 Grate flow)	7.14	450(2)	1.06	0.14		Qg 0.168 Qo 0.168 Do 450 CHRT 32: Vo2/2gDo 0.13 H/Do 0.00 Kg side flow 7.39 end flow 5.74	0.057	7.39	0.423			7.39	0.423	0.35	0.030	0.144	3.84	143.574 142.960	143.574 143.175	143.997		143.997	144.599	1/7F
10 100	7/F	7/F to 8/F	1/F;2/F;4/F;1A/5F;5/F;8/F;7/F	ROAD/ALLOT		10.00 10.00	168 254		0.88 1.00	0.333	0.293 0.333	0.293 0.333	137 235	200 FLOW WIDTH 2.832	0.00	282 (0.000	13S.111 3 month)	200	0		12.29 12.29	154 234	1.579 1.796	1167			673 (Pipe flow=	15.525 Sum upstr	6.41 atten flows)	675(2)	1.83	0.14		Qg 0.183 Qo 0.673 Do 675 Routine 2.1 CHART 48 Du/Do 0.67 Qu/Qo 0.50 K 0.86 d/Do 2.0 chrt Qg/Qo 0.27 Kg 0.26 d/Do 1.5 chrt Qg/Qo 0.27 Kg 0.33 d/Do 1.00 Interp value Kg 0.40 Ku=Kw= 1.26 Combined pipes in line case Join Pipes:	0.171	1.26	0.215	6/F and 1/7F Vel1 2.111 Vel2 0.969 Eq Dia 596 Angle 217 Flow 0.490 CHART 33 Angle 0 S/Do 2.5 Du/Do 0.88 Qg/Qo 0.27 K 0.85 S/Do 1.30 cor 0.37 Ku 1.22 Kw 1.22 Interpolated Ku= 1.26 Kw= 1.26		1.26 6/F and 1/7F Vel1 2.111 Vel2 0.969 Eq Dia 596 Angle 217 Flow 0.490 CHART 33 Angle 0 S/Do 2.5 Du/Do 0.88 Qg/Qo 0.27 K 0.85 S/Do 1.30 cor 0.37 Ku 1.22 Kw 1.22 Interpolated Ku= 1.26 Kw= 1.26	0.215	0.59	0.092	0.259	5.26	142.960 141.966	142.960 142.475	143.175		143.175	144.599	7/F
10 100	8/F	8/F to 9/F	1/F;2/F;4/F;1A/5F;5/F;8/F;7/F;RW60/I;RW59/I;RW58/I;RW57/I;RW56/I;1/H;2/H;1A/3H;3/H;1A/4H;4/H	MH													41				12.43 12.43	154 233	2.945 3.338	2160	1250	971 (Pipe flow=	1189 Sum upstr	59.111 atten flows)	0.63	825(2)	2.16	0.46		Qo 1.189 Do 825 Flow 4/H made eqv grate flow CHART 33 Angle 6 S/Do 2.5	0.238	1.55	0.368			1.55 Du/Do 0.82 Qg/Qo 0.63 K 1.13 S/Do 1.61 cor 0.42 Ku 1.55 Kw 1.55 K vals above for stepped pipes as grate flow	0.368	0.63	0.374			141.966 141.592	142.107 141.733	142.475		142.475	144.698	8/F
10 100	9/F	9/F to 10/F	1/F;2/F;4/F;1A/5F;5/F;8/F;7/F;RW60/I;RW59/I;RW58/I;RW57/I;RW56/I;1/H;2/H;1A/3H;3/H;1A/4H;4/H	MH													41				12.89 12.89	151 230	2.945 3.338	2133	1109	944 (Pipe flow=	1189 Sum upstr	8.726 atten flows)	0.50	1200 x 600 (RCBC)	1.65	0.09		Qo 1.189 Do 801 Flow 8/F made eqv grate flow CHRT 32: Vo2/2gDo 0.23 H/Do 0.31 Kg side flow 4.97 end flow 4.15 K vals above for stepped pipes as grate flow grate flow decreased by 1.189 from 8/F	0.139	1.55	0.215			2.05 CHART 50 Du/Do1.03 alpha 64 K'w 0.28 Vu 2.22 WSE 0.28 Ku 1.55 Kw 2.05 K vals step pipes as pipe flow Ku 1.55 Kw 2.05	0.285	0.39	0.034			141.335 141.291	141.518 141.484	141.733		141.803	142.438	9/F
10 100	1/10F	1/10F to 2/10F	1A/10F	ROAD/ALLOT		10.00 10.00	168 254		0.88 1.00	0.372	0.328 0.372	0.328 0.372	153 263	214 FLOW WIDTH 2.541	0.00	331 (0.000	17S.111 3 month)	214	0		10.00 10.00	168 254	0.328 0.372	262			214 (Pipe flow=	8.565 Grate flow)	1.75	600(2)	0.73	0.14		Qg 0.214 Qo 0.214 Do 600 CHRT 32: Vo2/2gDo 0.04 H/Do 0.06 Kg side flow 9.28 end flow 6.70	0.027	9.28	0.252			9.28	0.252	0.11	0.010			141.495 141.345	141.532 141.522	141.784		141.784	142.470	1/10F
10 100	2/10F	2/10F to 10/F	1A/10F;10/F	ROAD/VERGE		5.00 5.00	216 329		0.88 1.00	0.082	0.072 0.082	0.072 0.082	43 75	43 FLOW WIDTH 0.000	0.01	272 (0.000	16S.111 3 month)	43	0		10.14 10.14	167 253	0.400 0.454	319			246 (Pipe flow=	6.232 Sum upstr	0.40 atten flows)	600(2)	0.84	0.10		Qg 0.033 Qo 0.246 Do 600 CHART 33 Angle 0 S/Do 2.5 Du/Do 1.00 Qg/Qo 0.14 K 0.62 S/Do 1.32 cor 0.18 Ku 0.80 Kw 0.80	0.036	0.80	0.029			0.80	0.029	0.15	0.009			141.325 141.300	141.493 141.484	141.522		141.522	142.461	2/10F
10 100	10/F	10/F to 7/E	1/F;2/F;4/F;1A/5F;5/F;8/F;7/F;RW60/I;RW59/I;RW58/I;RW57/I;RW56/I;1/H;2/H;1A/3H;3/H;1A/4H;4/H;1A/10F;10/F	MH													42				12.98 12.98	151 229	3.345 3.792	2412	453	977 (Pipe flow=	1435 Sum upstream	18.076 flows)	0.50	1200 x 600 (RCBC)	1.99	0.15		Qo 1.435 Do 801 Routine 2.15 Join Pipes: 9/F and 2/10F Vel1 2.362 Vel2 0.870	0.202	0.88	0.177	Eq Dia 931 Angle 200 Flow 1.435 CHART 50 Du/Do1.16 alpha 20 K'w 0.21 Vu 2.11 WSE 0.23 Ku 0.88 Kw 1.12		1.12 Eq Dia 931 Angle 200 Flow 1.435 CHART 50 Du/Do1.16 alpha 20 K'w 0.21 Vu 2.11 WSE 0.23 Ku 0.88 Kw 1.12	0.225	0.57	0.104			141.271 141.181	141.307 141.203	141.484		141.532	142.482	10/F

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NORTH:

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DESIGNED	CDV
DRAWN	WN
CHECKED	PNH
DATUM: AHD	

ISSUE:

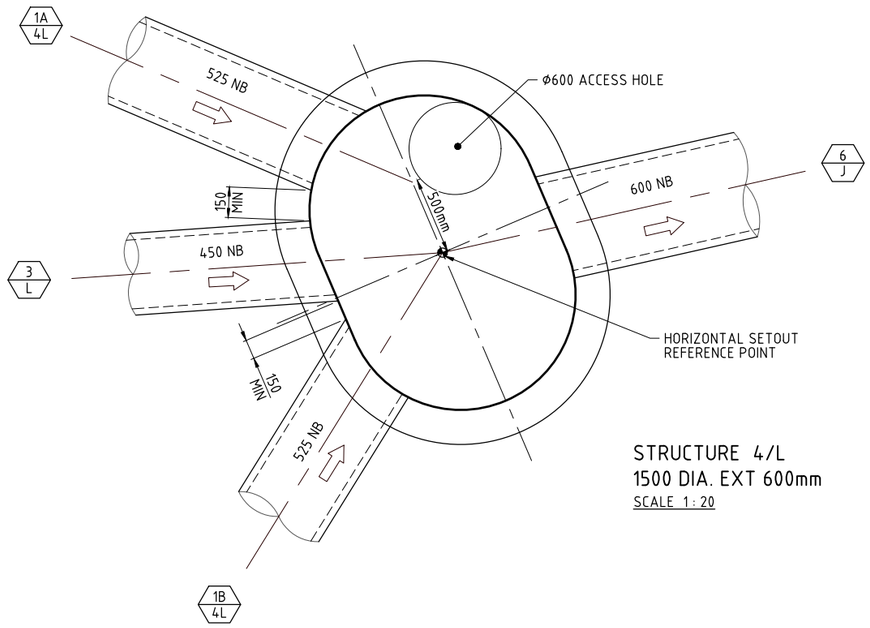
ISSUE:	DETAILS:	DATE:	INIT:
A	ISSUE FOR OPERATIONAL WORKS APPROVAL	16/09/21	CDV

TITLE:
DRAINAGE CALCULATIONS TABLES - SHEET 2 OF 2
DFC (PROJECT MANAGEMENT PTY LTD)
'ARCHERS WAY' ESTATE - STAGE 3
AT 22-80 CASH STREET, D'AGUILAR

DENNIS FAMILY CORPORATION

DETAILS:
JOB NO: M2584E_3
PLAN: D07 ISSUE: A
MORETON BAY REGIONAL COUNCIL REF: DA/38032/2019/V3VR
FILE NAME: DRAINAGE SECTIONS.DWG

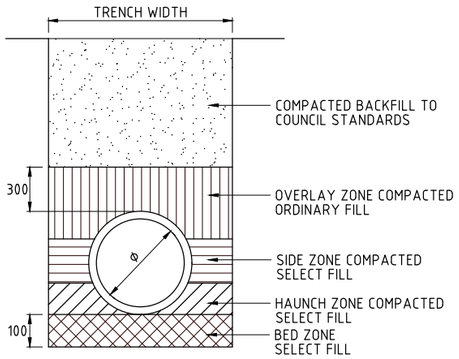
CONSTRUCTION EQUIPMENT	PIPE CLASS	MINIMUM COMPACTION COVER TO PIPE OBVERT								
		ϕ375	ϕ450	ϕ525	ϕ600	ϕ675	ϕ750	ϕ825	ϕ900	ϕ1050
VIBRATORY RAMMER (UP TO 75kg)	2	0.450	0.400	0.400	0.350	0.350	0.300	0.300	0.250	0.25
	3	0.300	0.300	0.300	0.250	0.250	0.200	0.200	0.200	0.200
VIBRATORY TRENCH ROLLER (UP TO 2t)	2	0.400	0.400	0.350	0.250	0.250	0.200	0.200	0.200	0.200
	3	0.250	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
VIBRATORY SMOOTH DRUM ROLLER (7t)	2	0.700	0.700	0.650	0.650	0.650	0.600	0.600	0.400	0.400
	3	0.450	0.450	0.450	0.350	0.350	0.200	0.200	0.200	0.200
VIBRATORY SMOOTH DRUM ROLLER (10t)	2	0.850	0.850	0.800	0.800	0.800	0.750	0.750	0.750	0.750
	3	0.550	0.550	0.500	0.500	0.500	0.200	0.200	0.200	0.200
EXCAVATOR AND COMPACTION WHEEL (15t)	2	0.700	0.650	0.650	0.650	0.650	0.600	0.600	0.550	0.550
	3	0.450	0.450	0.450	0.450	0.450	0.350	0.350	0.250	0.250
EXCAVATOR AND COMPACTION WHEEL (25t)	2	1.050	1.000	0.950	0.900	0.900	0.850	0.850	0.750	0.750
	3	0.650	0.650	0.650	0.650	0.650	0.600	0.600	0.500	0.500
GRADER [CAT120H] 14.5t)	2	0.600	0.600	0.450	0.200	0.200	0.200	0.200	0.200	0.200
	3	0.600	0.450	0.450	0.200	0.200	0.200	0.200	0.200	0.200
GRADER [CAT140H] (17.0t)	2	0.600	0.600	0.600	0.200	0.200	0.200	0.200	0.200	0.200
	3	0.600	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
SCRAPER [CAT613C11] (27.2t)	2	0.600	0.600	0.600	0.600	0.600	0.600	0.600	0.200	0.200
	3	0.600	0.600	0.600	0.600	0.600	0.200	0.200	0.200	0.200
SCRAPER [CAT621F] (53.8t)	2	0.700	0.650	0.650	0.650	0.600	0.600	0.600	0.600	0.600
	3	0.650	0.600	0.600	0.650	0.600	0.600	0.600	0.600	0.600
DOZER [CATD7 G]	2	0.600	0.600	0.600	0.200	0.200	0.200	0.200	0.200	0.200
	3	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
DOZER [CATD9 R]	2	0.600	0.600	0.600	0.600	0.600	0.600	0.600	0.600	0.200
	3	0.600	0.600	0.600	0.600	0.600	0.200	0.200	0.200	0.200
EXCAVATOR [CAT315B] (15.8t)	2	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
	3	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
EXCAVATOR [CAT317] (17.3t)	2	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
	3	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
EXCAVATOR [CAT325B] (25.9t)	2	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200
	3	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200



STRUCTURE 4/L
1500 DIA. EXT 600mm
SCALE 1:20

TYPE HS2 SUPPORT:

1. THE HAUNCH ZONE GOES FROM THE BASE OF THE PIPE TO A HEIGHT OF 0.3m TIMES THE DIAMETER OF THE PIPE (ie TO 3/10 OF THE DIAMETER OF THE PIPE).
2. THE HAUNCH ZONE IS COMPACTED TO A MINIMUM DRY DENSITY RATIO OF 90%. (DI=60)
3. THE SIDE ZONE GOES FROM THE TOP OF THE HAUNCH ZONE TO A HEIGHT OF 0.7 TIMES THE DIAMETER OF THE PIPE (ie TO 7/10 OF THE DIAMETER OF THE PIPE).
4. THE SIDE ZONE IS COMPACTED TO A MINIMUM DRY DENSITY RATIO OF 90%. (DI=60)
5. THERE IS A 300mm OVERLAY ZONE OF COMPACTED ORDINARY FILL.



INSTALLATION TYPE HS2

NOTES:

1. SOIL TYPE USED FOR THIS TABLE IS CLAYEY SAND. ALL OTHER SOIL TYPES MUST BE REFERRED IMMEDIATELY TO THE SUPERVISING ENGINEER SO MINIMUM COVERS CAN BE CALCULATED.
2. INSTALLATION TYPE FOR THIS TABLE IS HS2. (REFER DETAIL)
3. ANY CONSTRUCTION EQUIPMENT, INSTALLATION TYPE, PIPE CLASS OR PIPE DIAMETER NOT COVERED IN THIS TABLE SHOULD BE REFERRED ONTO THE SUPERVISING ENGINEER BEFORE ANY CONSTRUCTION COMMENCES
4. DISTANCES SHOWN ARE THE ABSOLUTE MINIMUM COMPACTION COVER TO THE OBVERT OF THE STORMWATER PIPE FOR THE NOMINATED MACHINERY. THE CONTRACTOR IS TO ENSURE THAT MACHINES THAT REQUIRE HIGHER COMPACTION COVER ARE KEPT CLEAR OF STORMWATER PIPES AND TRENCHES UNTIL THEIR NECESSARY COMPACTION COVER IS ACHIEVED.
5. CONSTRUCTION EQUIPMENT LISTED IN THIS TABLE ARE EXAMPLES ONLY AND EQUIVALENT MACHINERY MAY BE USED.

NOTE:
CRACKED PIPES WILL NOT BE ACCEPTED AT 'ON MAINTENANCE' AND IT IS TO BE DEMONSTRATED IN ACCORDANCE WITH COUNCIL STANDARDS THAT THE STORMWATER SYSTEM IS ACCEPTABLE TO COUNCIL WITH REGARD TO CRACKED PIPES. (THE CONTRACTOR IS TO REFER TO SECTION 6.5.1 OF THE SUBDIVISION AND DEVELOPMENT GUIDELINES FOR FURTHER INFORMATION.)

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NORTH:

SCALE: 1:20 A1
THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE
0 0.2 0.4 0.6 0.8 1 (A1) 1:20 2 Metres
(A3) 1:40
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DESIGNED	CDV
DRAWN	WN
CHECKED	PNH
DATUM: AHD	

ISSUE:

ISSUE:	DETAILS:	DATE:	INIT:
A	ISSUE FOR OPERATIONAL WORKS APPROVAL	16/09/21	CDV

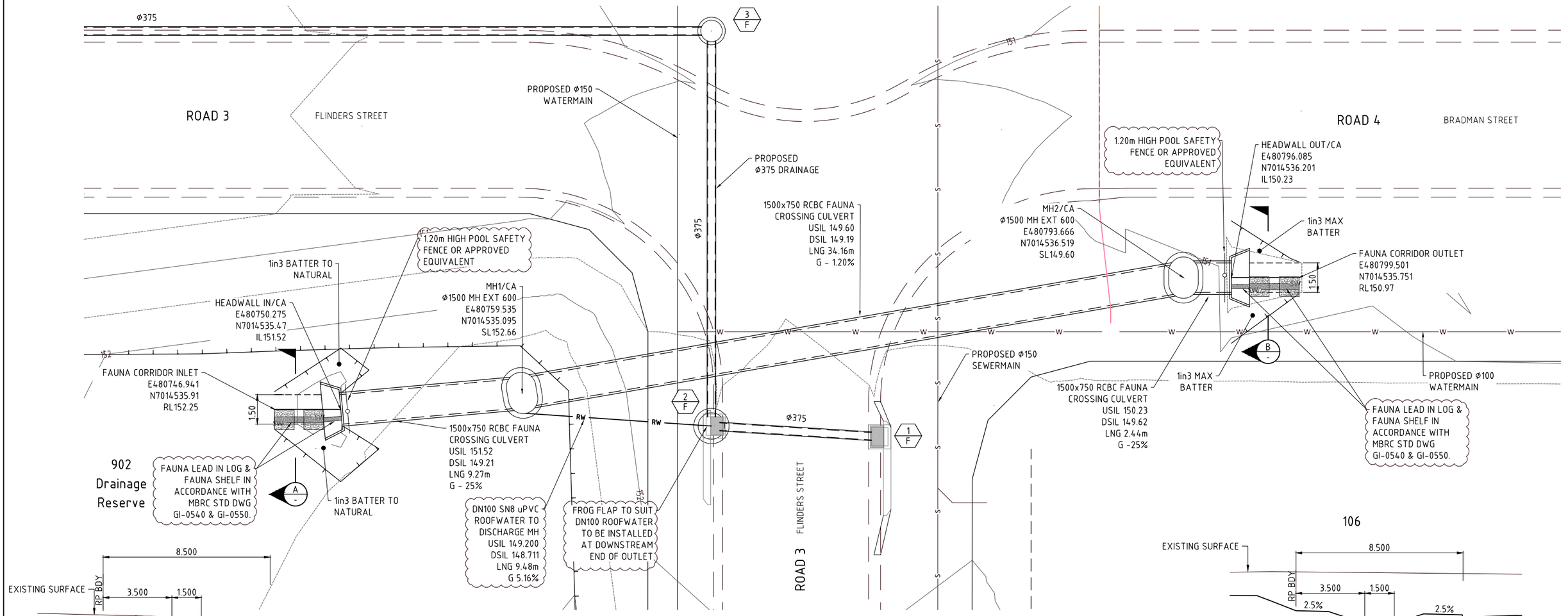
TITLE:
DRAINAGE STRUCTURE DETAILS

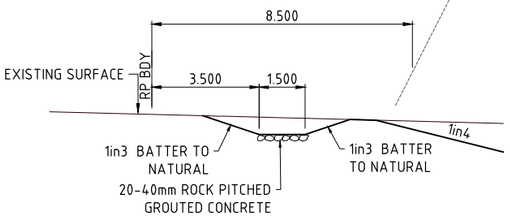
DFC (PROJECT MANAGEMENT PTY LTD)
'ARCHERS WAY' ESTATE - STAGE 3
AT 22-80 CASH STREET, D'AGUILAR

DENNIS FAMILY CORPORATION

DETAILS:
JOB NO: M2584E_3
PLAN: D08 ISSUE: A
MORETON BAY REGIONAL COUNCIL REF: DA/38032/2019/V3VR
FILE NAME: DRAINAGE DETAILS.DWG

15/11/2021 N:\M2584\STAGE_3\DESIGN\WORKING\DRAWINGS\DRAINAGE DETAILS



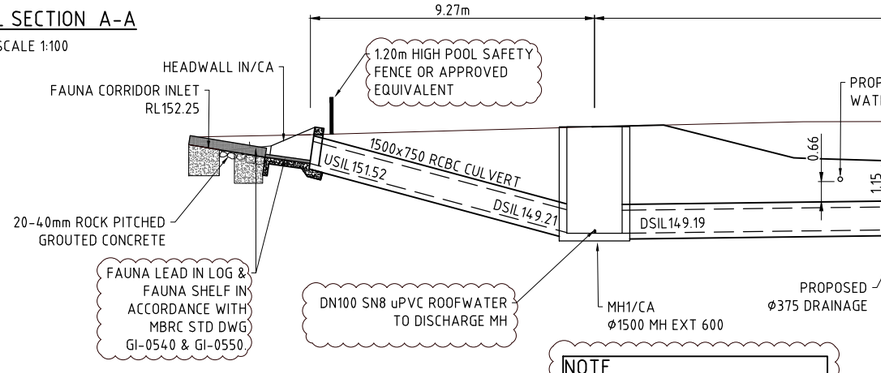


FAUNA CROSSING CULVERT - PLAN

SCALE 1:100

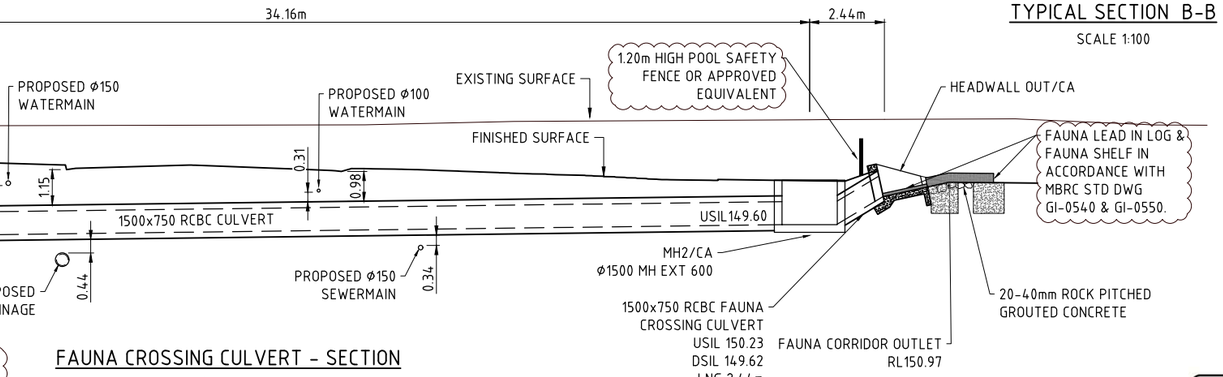
TYPICAL SECTION A-A

SCALE 1:100



FAUNA CROSSING CULVERT - SECTION

SCALE 1:100



TYPICAL SECTION B-B

SCALE 1:100

NOTE
CULVERT FLOOR TO BE LINED WITH ROCKS, GRAVEL & LOGS IN ACCORDANCE WITH LANDSCAPING PLANS

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NORTH:

SCALE:
1:100 THIS SCALE SHOWN IS ORIGINAL DRAWING SCALE
A1 0 1 2 3 4 5 (A1) 1:100 10 Metres
(A3) 1:200
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CHECKED	PM
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TITLE:
DRAINAGE DETAILS FAUNA CROSSING CULVERT
DFC (PROJECT MANAGEMENT PTY LTD)
'ARCHERS WAY' ESTATE - STAGE 3
AT 22-80 CASH STREET, D'AGUILAR

DENNIS FAMILY CORPORATION

DETAILS:
JOB NO: M2584E_3
PLAN: D09 ISSUE: B
MORETON BAY REGIONAL COUNCIL REF: DA/38032/2019/V3VR
FILE NAME: DRAINAGE DETAILS.DWG

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