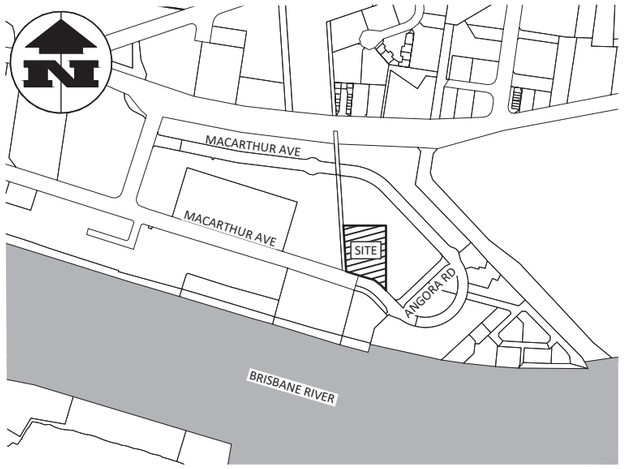

LOCALITY MAP
BRISBANE UBD MAP REF: 141, GRID: E19
1:2500

GPT DECONTAMINATION

CIVIL WORKS

DRAWING LIST

PROJECT SETOUT CONTROL

SOURCE: SUNSTATE ENGINEERING SURVEYS BRISBANE
PHONE: 07 3283 7633
THEIR REF: 13032-AC1

DATUM: AHD , PLANAR

STD ID	TYPE	LOCATION
35295	STAND	MACARTHUR AVE
160100	MINI MARK	HERCULES STREET
189183	MINI MARK	MACARTHUR AVE

R.P. DESCRIPTION

LOT 14 ON SP195300

LOCAL GOVERNMENT: BRISBANE CITY COUNCIL
LOCALITY: HAMILTON

PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL
Approval no: DEV2019/1034
Date: 22 July 2019
Queensland Government

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STATUS
FOR APPROVAL

REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
B	05.03.19	EDQ OPERATIONAL WORKS SUBMISSION	AL	AL	KR	NR
A	03.07.18	ISSUE FOR INFORMATION	EG	AL	KR	NR

ASSOCIATED CONSULTANTS

APPROVED M. Kozij RPEQ DATE 05.03.19

CHECKED K. Rench DATE 05.03.19

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www.bornhorstward.com.au

CLIENT
ECONOMIC DEVELOPMENT QUEENSLAND

PROJECT
GPT DECONTAMINATION
SITE ENGINEERING SERVICES

SUBJECT
COVER SHEET

PROJECT No. 18059C
DRAWING No. C0000
REVISION B

WORLD SCALE 0 10 20 30 40 50 100
ORIGINAL SIZE A1

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STANDARD STORMWATER DRAINAGE NOTES

1. MATERIALS

1.1. PIPES
PIPES WORK SHALL COMPLY WITH THE FOLLOWING UNLESS NOTED OTHERWISE:

SIZE	CLASS	TYPE	JOINTING
≤ 300 DIA	REFER PROJECT DRAWINGS	RCP, FRC OR uPVC	RRJ
300 TO 600 DIA	REFER PROJECT DRAWINGS	RCP/FRC	SPIGOT AND SOCKET RRJ
> 675 DIA	REFER PROJECT DRAWINGS	RCP	INTERNAL FLUSH JOINT WITH EXTERNAL RUBBER BANDS

1.2. BEDDING, BACKFILL AND OVERLAY
BEDDING, HAUNCH / SIDE ZONE AND OVERLAY MATERIAL
THIS MATERIAL SHALL CONFIRM TO THE FOLLOWING GRADING:

	% PASSING BY MASS	
AS SIEVE SIZE	BED AND HAUNCH ZONES	SIDE ZONES
9.5	100	50-100
2.36	50 - 100	30-100
0.60	20 - 90	15-50
0.30	10 - 60	-
0.15	0 - 25	-
0.075	0 -10	0-25

1.2.1. BACKFILL
THE BACKFILL SHALL CONFORM TO THE DETAIL ADJACENT

2. CONSTRUCTION

UNLESS NOTED OTHERWISE BEDDING, HAUNCH OVERLAY AND BACKFILLING TO BE IN ACCORDANCE WITH THE PROJECT SPECIFICATION, AS3725 FOR CONCRETE PIPES AND AS2032, PARTS 5 AND 7 FOR uPVC PIPE UNDERGROUND INSTALLATION

NOMINAL DIAMETER OF PIPE (mm)	MINIMUM WIDTH OF TRENCH (mm)	MAXIMUM ALLOWABLE WIDTH OF TRENCH INSTALLATION (mm)
< 300	150	
300	900	1100
375	975	1200
450	1050	1300

2.1. FOR DIAMETER < Ø600 ADOPT HS3 BEDDING AND H2 FOR LARGER PIPES. FOR ALL PLASTIC PIPES THE SIDE AND HAUNCH ZONE MATERIALS IS TO EXTEND 75mm ABOVE THE CROWN OF THE PIPE.

2.2. DRAINAGE TRENCH COMPACTION:
MINIMUM DRY DENSITY COMPACTION RATIOS TO AS 1289.5.4.1 (STANDARD COMPACTION)

ZONE	LOCATION	MATERIAL	MIN. DRY DENSITY (%)	
			COHESIVE	NON COHESIVE
BEDDING	ALL	REFER NOTE 1.2	98	70
BACKFILL	UNDER ROAD	GRANULAR (TOP 300mm)	98	N/A
BACKFILL	UNDER ROAD	CBR 15	98	N/A
BACKFILL	FOOTPATH	*ORDINARY FILL	95	N/A
BACKFILL	OTHER	*ORDINARY FILL	95	N/A

*REFER NOTE 1.2.1

TESTING FREQUENCY: 1 TEST PER 30 LINEAL METERS OF TRENCH PER LAYER OR A MINIMUM OF 2 TESTS PER LAYER FOR TRENCHES < 50m IN LENGTH.

2.3. A 2.0m LENGTH OF Ø80 SUBSOIL DRAIN, SLEEVED IN A GEOTEXTILE SOCK, IS TO BE PLACED IN THE BEDDING UPSTREAM OF ALL DRAINAGE STRUCTURES OUTFALLING INTO THE DRAINAGE STRUCTURE.

2.4. CCTV TO BE COMPLETED ON ALL STORMWATER PIPELINES TO LOCAL AUTHORITY STANDARD.

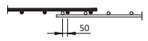
STANDARD ROADWORKS NOTES

FLEXIBLE PAVEMENTS

1. PAVEMENT AND SURFACING
1.1. A PRIMER SEAL IS REQUIRED ON THE BASE COURSE SURFACE BEFORE ANY ASPHALTIC CONCRETE SURFACING, OR SEALING, IS CARRIED OUT. REFER SPECIFICATION FOR TYPICAL REQUIREMENTS. DETAILS TO BE CONFIRMED WITH THE SUPERINTENDENT PRIOR TO CONSTRUCTION.
1.2. BITUMINOUS SURFACING SHALL NOT BE COMMENCED UNTIL THE PROFILE, SURFACE COMPACTION, QUALITY AND FINISH OF THE PAVEMENT HAVE BEEN APPROVED BY THE SUPERINTENDENT. SHOULD THE PAVEMENT, DUE TO ANY REASON OR CAUSE, LOSE THE REQUIRED QUALITY, STABILITY, DENSITY OR FINISH BEFORE THE SURFACING IS COMPLETE, IT SHALL BE RECTIFIED AT THE EXPENSE OF THE CONTRACTOR.
2. MATERIALS
2.1. WHERE PAVEMENT MATERIALS ARE SPECIFIED BY SOAKED CBR VALUES, THIS SHALL BE DEFINED AS THE FOUR DAY SOAKED CBR VALUE WHEN TESTING IN ACCORDANCE WITH AS 1289.6.1.1 - METHOD 6.1.1

CONCRETE PAVEMENTS

1. PAVEMENT AND SURFACING
1.1. PAVEMENT THICKNESSES SHOWN ON THESE DRAWINGS ARE PRELIMINARY. THE SUPERINTENDENT WILL NOMINATE FINAL PAVEMENT THICKNESSES FOLLOWING DETAILED SUBGRADE EVALUATION AS NOMINATED IN THE SPECIFICATIONS.
2. MATERIALS
2.1. ALL CONCRETE AND REINFORCING IS TO BE IN ACCORDANCE WITH THE SAA CONCRETE STRUCTURES CODE AS 3600.
2.2. FLEXURAL STRENGTH AT 90 DAYS TO BE A MINIMUM OF 10% COMPRESSIVE STRENGTH.
2.3. MAXIMUM AGGREGATE SIZE TO BE 20mm.
3. CONSTRUCTION
3.1. ALL FABRIC LAPS ARE TO BE AS SHOWN BELOW AND WIRED TOGETHER AT 1000mm CENTRES.



3.2. BAR LAPS ARE TO BE AS SHOWN BELOW UNLESS NOTED OTHERWISE.

BAR	HORIZONTAL LAP	VERTICAL LAP
N12	500	500
N16	600	600
N20	800	700
N24	100	800
N28	1400	1150
N32	1800	1350
N36	2300	1750

3.3. CONDUITS, PIPES, ETC MUST NOT BE PLACED IN COVER CONCRETE.
3.4. ALL REINFORCEMENT IS TO BE SUPPORTED ON CHAIRS OR HANGERS. FABRIC IS TO BE SUPPORTED AT 800mm CENTRES BOTH WAYS.
3.5. ALL CONCRETE TO BE MECHANICALLY VIBRATED DURING PLACING.
3.6. **INSPECTION:** ALL REINFORCEMENT IS TO BE ACCURATELY POSITIONED, ADEQUATELY SUPPORTED, AND THEN INSPECTED BY THE ENGINEER BEFORE ANY CONCRETE IS PLACED.
3.7. **CURING:** AFTER POURING AND UNTIL FINAL TROWEL ALL EXPOSED SURFACES ARE TO BE SPRAYED WITH ALIPHATIC ALCOHOL IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. FINAL CURING COMPOUND 'MULTICURE AC90', SUPPLIED BY LYNDON AGENCIES
3.8. PAVEMENT EDGE THICKENING IS TO BE PROVIDED AT THE JOINS TO ALL FLEXIBLE PAVEMENTS.
3.9. ISOLATED JOINTS ARE TO BE PROVIDED AROUND ALL PENETRATIONS IN THE SLAB AND SLAB EDGES ABUTTING RIGID STRUCTURES I.E. KERBS, ACCESS CHAMBERS, ETC.
3.10. 'SOFFCUT' JOINTS: FORM THE JOINT BY CUTTING SLOT (¼ SLAB THICKNESS) USING AN EARLY ENTRY SAWBLADE AS SOON AS THE CONCRETE WILL SUPPORT THE SAW AND OPERATOR, USUALLY 2-4HRS, NOT MORE THAN 6 HRS.

MATERIAL COMPLIANCE TESTING

1. PRIOR TO DELIVERY OF ANY MATERIAL ON SITE SUBMIT MATERIAL COMPLIANCE TEST RESULTS TO THE SUPERINTENDENT.
2. TESTING REQUIRED TO DEMONSTRATE COMPLIANCE OF MATERIALS SHALL BE UNDERTAKEN AT THE RATE OF ONE (1) TEST PER 500 CUBIC METRES SOLID MEASUREMENT OR PART THEREOF UNLESS OTHERWISE DETERMINED BY THE SUPERINTENDENT OR SPECIFIED UNDER THE JOB SPECIFICATION.

PAVEMENT INSPECTIONS AND TESTING

1. PAVEMENT INSPECTIONS
1.1. THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT TWENTY-FOUR (24) HOURS IN ADVANCE OF WHEN THE SUBGRADE OR FINISHED PAVEMENT WILL BE READY FOR THE SUPERINTENDENT'S INSPECTION. PAVING SHALL NOT COMMENCE UNTIL THE SUPERINTENDENT HAS INSPECTED AND APPROVED THE SUBGRADE PREPARATION.
1.2. THE SUBGRADE IS TO BE FREE FROM STICKS, ORGANIC MATTER, CLAY LUMPS AND OTHER DELETERIOUS MATERIAL.
2. SUBGRADE TESTING
2.1. THE MINIMUM STANDARDS OF COMPACTION SHALL BE:
SUBGRADE - 100% STANDARD COMPACTION
SUBGRADE REPLACEMENT MATERIAL - 95% MODIFIED COMPACTION
SUB-BASE - 95% MODIFIED COMPACTION
BASE - 98% MODIFIED COMPACTION
2.1. COMPACTION TESTS ARE REQUIRED ON SUBGRADE, SUBGRADE REPLACEMENT, SUB-BASE AND BASE LAYERS AT A FREQUENCY OF ONE (1) TEST PER 100 METRES FOR ROADWAY OR ONE (1) TEST PER 500m2 FOR GENERAL PAVING

HIGHLY REACTIVE SOILS

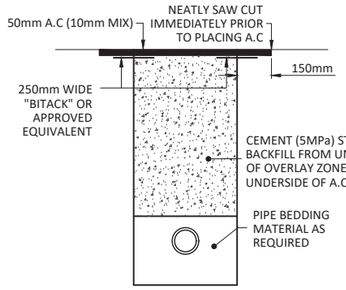
THE SOILS ON SITE ARE HIGHLY REACTIVE AND THE CONTRACTOR IS TO TAKE APPROPRIATE PRECAUTIONS TO PROTECT THE SOIL FROM BECOMING TOO MOIST OR DRIED OUT.

THE CONTRACTOR IS TO PROTECT THE EXCAVATION FROM SURFACE RUN-OFF AS WELL AS FROM THE PIPED DRAINAGE SYSTEMS.

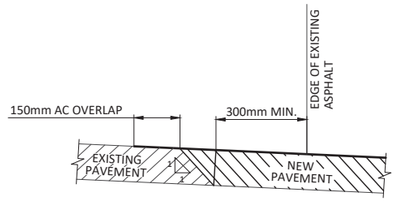
IF HEAVY RAIN IS PREDICTED THEN EXCAVATION IS NOT TO PROCEED.

SHOULD WATER ENTER THE EXCAVATION THEN IT IS TO BE REMOVED AS SOON AS POSSIBLE. THE CBR15 MATERIAL IS NOT TO BE PLACED OVER THE EXCAVATION UNTIL THE MOISTURE CONTENT RETURNS TO A SIMILAR LEVEL AS THE NATURAL GROUND.

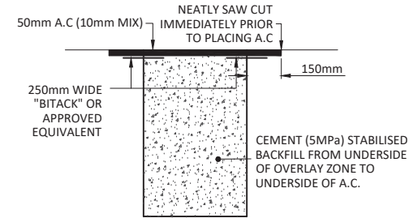
NOTE:
ALL JUNCTIONS TO STORMWATER PIPELINES TO BE MADE AT MANHOLES, GULLY PITS OR PRECAST JUNCTION FITTINGS. BANDAGE OR BREAK IN JUNCTIONS ARE NOT PERMITTED AND WILL BE REJECTED UNLESS SPECIFICALLY PRE-APPROVED BY SUPERINTENDENT.



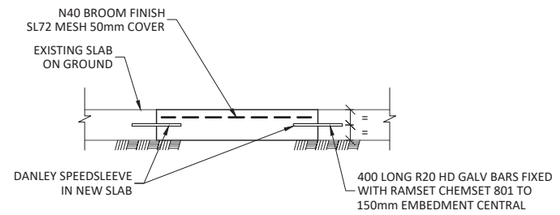
TRENCH BACKFILL WITH PIPE



PAVEMENT CUTBACK DETAIL
N.T.S.



TRENCH BACKFILL WITHOUT PIPE



TYPICAL SLAB ON GROUND REINSTATEMENT DETAIL
N.T.S.

EARTHWORKS NOTES

1. ALL EARTHWORKS & REMOVAL OF CONTAMINATED MATERIAL SHALL BE UNDERTAKEN IN ACCORDANCE WITH THE ENVIRONMENTAL CONSULTANTS ADVICE
2. NOT WITHSTANDING THE LIMITS OF CUTTING & FILLING SHOWN ON THE DRAWINGS, THE ACTUAL LIMITS SHALL BE DETERMINED ON SITE BY THE SUPERINTENDENT AT THE PRE-START MEETING, ALTERATIONS TO THE EARTHWORKS MAY BE INSTRUCTED BY THE SUPERINTENDENT DURING CONSTRUCTION. FINISHED SURFACE CONTOURS MAY BE ADJUSTED BY THE WRITTEN DIRECTION OF THE SUPERINTENDENT DURING CONSTRUCTION.
3. EARTHWORKS QUANTITIES ARE CALCULATED ON THE BASIS OF THE ASSUMED PAVEMENT THICKNESS SHOWN ON THE DRAWINGS (EXCLUDING LOWER SUB-BASE COURSE).
EARTHWORK QUANTITIES ARE NET SOLID VOLUMES.
4. CONTAMINATED EXCAVATION MATERIAL SHALL BE REMOVED FROM SITE.
5. THE CONTRACTOR IS TO COMPLY WITH ALL REGULATIONS CONCERNING WORK HOURS, WARNING SIGNS, FENCING OR SECURITY & EMISSIONS FROM THE SITE INCLUDING DUST, WATER, SILT, NOISE & SMOKE.
6. ALL VEHICLES EXITING FROM THE SITE WILL DO SO VIA THE TEMPORARY CONSTRUCTION ENTRY/EXIT SEDIMENT TRAP. VEHICLES WILL BE CLEANED & TREATED AS TO PREVENT MATERIAL BEING TRACKED OR DEPOSITED ON THE ADJOINING PUBLIC ROADS. REFER EROSION & SEDIMENT DRAWINGS FOR FURTHER DETAILS OF EROSION & SEDIMENT CONTROLS.

PLANS AND DOCUMENTS referred to in the PDA DEVELOPMENT APPROVAL
Approval no: DEV2019/1034
Date: 22 July 2019
Queensland Government

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STATUS
FOR APPROVAL

REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
B	05.03.19	EDQ OPERATIONAL WORKS SUBMISSION	AL	AL	KR	NR
A	03.07.18	ISSUE FOR INFORMATION	EG	AL	KR	NR

ASSOCIATED CONSULTANTS

APPROVED M. Kozy RPEQ DATE 05.03.19
CHECKED K. Rench DATE 05.03.19

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mail@bornhorstward.com.au
www.bornhorstward.com.au

CLIENT: ECONOMIC DEVELOPMENT QUEENSLAND
PROJECT: GPT DECONTAMINATION SITE ENGINEERING SERVICES
SUBJECT: EARTHWORKS REMEDIATION NOTES AND DETAILS
PROJECT No. 18059C
DRAWING No. C0100
REVISION B

WORLD SCALE 0 10 20 30 40 50 100
ORIGINAL SIZE A1

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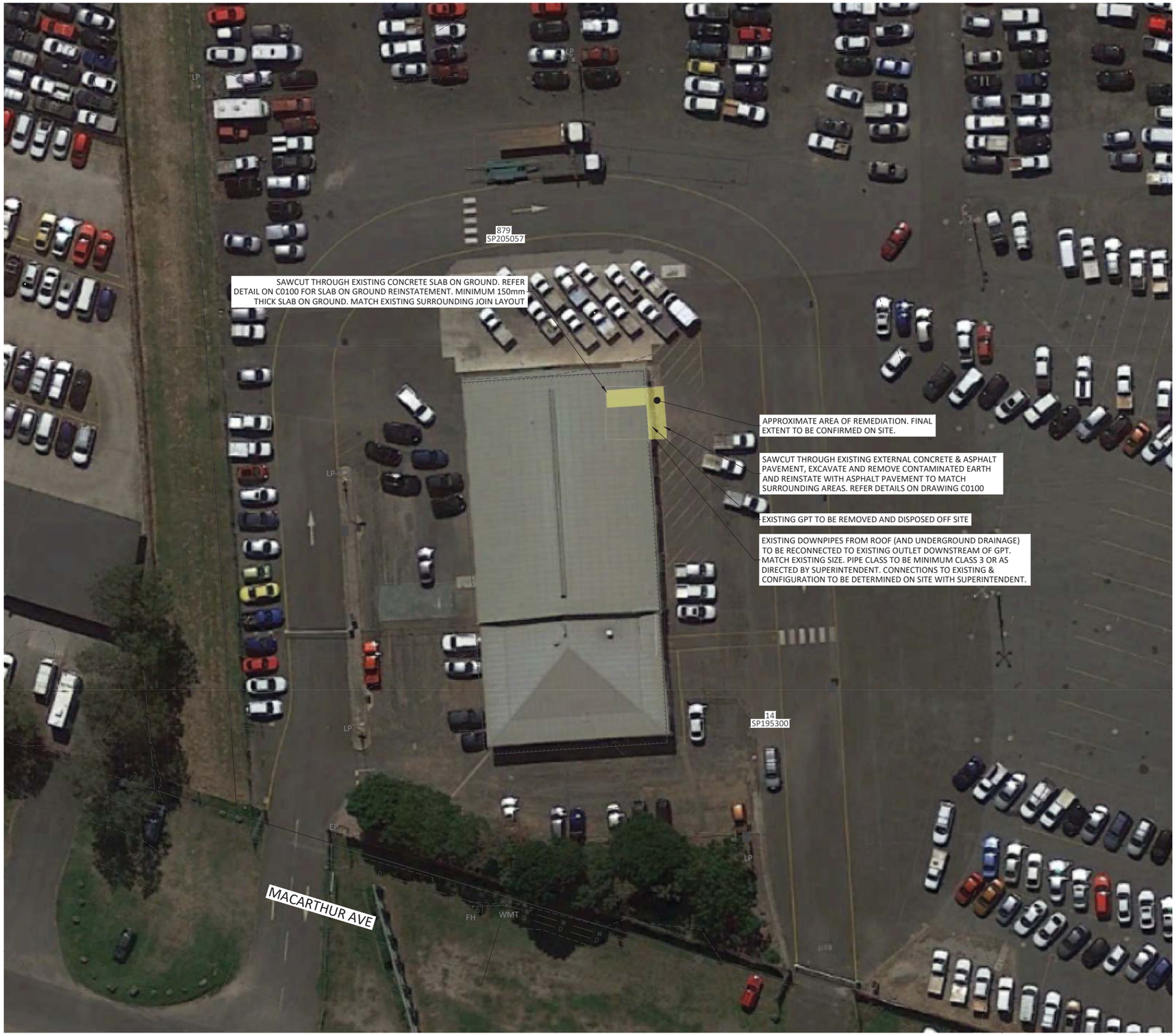

SAWCUT THROUGH EXISTING CONCRETE SLAB ON GROUND. REFER DETAIL ON C0100 FOR SLAB ON GROUND REINSTATEMENT. MINIMUM 150mm THICK SLAB ON GROUND. MATCH EXISTING SURROUNDING JOIN LAYOUT

APPROXIMATE AREA OF REMEDIATION. FINAL EXTENT TO BE CONFIRMED ON SITE.

SAWCUT THROUGH EXISTING EXTERNAL CONCRETE & ASPHALT PAVEMENT, EXCAVATE AND REMOVE CONTAMINATED EARTH AND REINSTATE WITH ASPHALT PAVEMENT TO MATCH SURROUNDING AREAS. REFER DETAILS ON DRAWING C0100

EXISTING GPT TO BE REMOVED AND DISPOSED OFF SITE

EXISTING DOWNPIPES FROM ROOF (AND UNDERGROUND DRAINAGE) TO BE RECONNECTED TO EXISTING OUTLET DOWNSTREAM OF GPT. MATCH EXISTING SIZE. PIPE CLASS TO BE MINIMUM CLASS 3 OR AS DIRECTED BY SUPERINTENDENT. CONNECTIONS TO EXISTING & CONFIGURATION TO BE DETERMINED ON SITE WITH SUPERINTENDENT.

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PROJECT NORTH

DIMENSIONS IN METRES EXCEPT WHERE SHOWN OTHERWISE. CULVERT AND PIPE SIZES IN MILLIMETRES — A1 UNREDUCED, A3 REDUCED

SCALES — UNREDUCED / REDUCED
0 2.5 5.0 7.5 10.0 12.5m
1 : 250 / 1 : 500

STATUS

REV	DATE	DESCRIPTION	DWN	DES	CHK	APP
B	05.03.19	EDQ OPERATIONAL WORKS SUBMISSION	AL	AL	KR	NR
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CHECKED K. Rench DATE 05.03.19

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CLIENT: ECONOMIC DEVELOPMENT QUEENSLAND

PROJECT: GPT DECONTAMINATION SITE ENGINEERING SERVICES

SUBJECT: EARTHWORKS REMEDIATION PLAN

PROJECT No. 18059C
DRAWING No. C0110
REVISION B

WORLD SCALE 0 10 20 30 40 50 100
ORIGINAL SIZE A1

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