# SURVEY & EXISTING SERVICES

- 1. HORIZONTAL DATUM IS MGA2020 ZONE 55
- LEVEL DATUM IS AHD.
- 3 THE ORIGIN FOR THE LEVELS IS PM AND LOCATED AT E:370455 637 N:8114259 635
- 4. REFER RPS SURVEYORS FOR THE SURVEY STATION SETOUT DETAILS
- 5. THE EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE DERIVED FROM SURFACE SURVEY AND COUNCIL RECORDS AND MAY NOT REPRESENT THE EXISTING SERVICES PRESENT BELOW THE SURFACE.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE ALL EXISTING SERVICES PRIOR TO ANY EXCAVATION, PARTICUL ARLY ON FOOTPATHS
- ALL DAMAGE TO EXISTING SERVICES SHALL BE MADE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT AND THE RELEVANT AUTHORITY, ALL AT THE
  CONTRACTORS EXPENSE. THE CONTRACTOR SHALL NOTIFY THE RELEVANT AUTHORITY IMMEDIATELY WHEN ANY DAMAGE OCCURS.
- 8. THE LINE AND LEVEL OF EXISTING UNDERGROUND SERVICES SHALL BE DETERMINED BY THE CONTRACTOR AND THE ENGINEER SHALL BE NOTIFIED OF ANY POTENTIAL CLASHES WITH DESIGN STRUCTURES AND SERVICES PRIOR TO COMMENCING CONSTRUCTION.
- 9. EXISTING OUTLET LEVELS OR CONNECTION LEVELS FOR ALL DESIGN STORMWATER AND SEWER SHALL BE CONFIRMED BY THE CONTRACTOR AND THE ENGINEER SHALL BE NOTIFIED OF ANY VARIATIONS PRIOR TO COMMENCING CONSTRUCTION.
- 10. EXISTING SERVICES ON THE DRAWINGS ARE PLOTTED FROM THE BEST INFORMATION AVAILABLE. NO RESPONSIBLY IS TAKEN BY THE PRINCIPAL OR SUPERINTENDENT FOR THE ACCURACY AND COMPLETENESS OF THE INFORMATION SHOWN.
- 11. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION THE CONTRACTOR IS TO ESTABLISH ON SITE THE EXACT POSITION OF ALL UNDERGROUND SERVICES IN THE PROPOSED WORKS AREA. METHODS FOR ACHIEVING THIS WILL INCLUDE BUT NOT BE LIMITED TO:
- CAREFUL EXAMINATION OF THE CONTRACT DRAWINGS.
- CONSULTATION WITH THE RELEVANT SERVICE AUTHORITIES. COMPREHENSIVELY SCANNING THE AFFECTED AREAS WITH A CABLE DETECTOR AND MARKING ON THE GROUND THE POSITION OF ALL SERVICES.
- HAND EXCAVATING TO EXPOSE ALL SUCH SERVICES WHICH MAY BE AFFECTED BY THE PROPOSED WORKS UNDER THE DIRECTION O
- 12. THE CONTRACTOR IS TO BRING TO THE SUPERINTENDENT'S ATTENTION ANY DISCREPANCIES BETWEEN THE EXISTING SERVICES THUS IDENTIFIED AND DOCUMENTED SERVICES WHICH MIGHT AFFECT THE PROPOSED WORKS. APPROPRIATE MEASURES TO RESOLVE ANY CONFLICT WILL BE DOCUMENTED BY THE
- 13 THIS DESIGN HAS BEEN BASED ON SERVICE AUTHORITY "AS CONSTRUCTED" INFORMATION AND LIMITED POTHOLING OR NO POTHOLING HAS BEEN INDERTAKEN TO VERIFY EXISTING SERVICE LOCATIONS AND DEPTHS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERTAKE POTHOLING TO VERIFY THE DESIGN. NOTIFY THE DESIGN CONSULTANTS OF ANY SERVICE CLASHES
- 14. THE CONTRACTOR SHALL EXCAVATE BY HAND TO EXPOSE THE WATER MAINS AND/OR SEWERS AND SHALL CONSTRUCT A CONCRETE SPANNING SLAB TO COUNCIL REQUIREMENTS OVER THE WATER MAINS OR SEWERS SO THAT NO LOADS ARE IMPOSED ONTO THOSE MAINS.

## **EARTHWORKS NOTES**

- 1. ALL FOOTPATHS SHALL BE GRASSED (DRILL SEEDED WITH APPROVED GRASS SPECIES) IN ACCORDANCE WITH LANDSCAPE SPECIFICATIONS, FERTILIZED
- 2. CLEAR TREES, LARGE SHRUBS ETC FROM THE AREA OF LOTS AND ROAD RESERVES, ONLY FOR CONSTRUCTION OF ROADS AND SERVICES, AND EITHER REMOVE FROM SITE OR ALTERNATIVELY CHIP MULCH AND STOCKPILE FOR RE-USE IN LANDSCAPING, CONTRACTOR SHALL OBTAIN COUNCIL INSPECTION AND APPROVAL PRIOR TO COMMENCING ANY TREE AND VEGETATION CLEARING, ALL VEGETATION/CONSERVATION ZONES SHALL BE RETAINED AND SHALL BE ADEQUATELY FENCED/SEGREGATED PRIOR TO COMMENCING CONSTRUCTION.
- 3. SLASH THE EARTHWORKS AREA, CONTINUE SLASHING AREAS AS NECESSARY AND AS INSTRUCTED BY THE SUPERINTENDENT DURING THE CONTRACT AND MAINTENANCE PERIOD TO KEEP GRASS TO A MAXIMUM 50mm TO 100mm HIGH
- ALL GULLIES AND DEPRESSIONS REQUIRING FILLING SHALL BE CLEARED, GRUBBED AND CLEANED OUT OF SILT, BOULDERS, DEBRIS ETC TO PROVIDE A CLEAN, FIRM BASE PRIOR TO PLACING ANY FILL OR FILTER MATERIALS. COMPACT ALL NATURAL SUBGRADES WITH 6 TO 8 PASSES OF A 10 TONNE VIBRATING ROLLER PRIOR TO PLACING ANY FILL MATERIALS. PLACE SUBSOIL DRAINSMARTS TO ENGINEED APPROVALS AT THE BASE OF ALL SUCH FILLS AND OUTLET TO THE STORMWATER DRAINAGE SYSTEM. NOTIFY THE SUPERINTENDENT FOR AN INSPECTION PRIOR TO PLACING ANY FILL MATERIALS.
- 5. WHERE FILL IS PLACED ON SLOPING EXISTING SURFACE, THE EXISTING SURFACE SHALL BE BENCHED AND THE BENCH COMPACTED TO 98% SRDD PRIOR
- 6. REMOVE SURFACE ROCKS AND REUSE IN SCOUR PROTECTION. REMOVE EXCESS FROM SITE OR STOCKPILE AS DIRECTED. ALL COSTS TO BE INCLUDED IN CONTRACT LUMP SUM.
- THE CONTRACTOR SHALL ENSURE NO PONDING AREAS RESULT FROM THE EARTHWORKS OPERATION. ANY SUCH AREAS WHICH DEVELOP SHALL BE RECTIFIED AS DIRECTED BY THE SUPERINTENDENT. THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT OF THE DEVELOPMENT OR EXISTENCE OF
- 8. BATTERS IN EXCESS OF 1.5m HIGH SHALL BE ASSESSED AND REPORTED FOR STABILITY (DURING CONSTRUCTION) BY A GEOTECHNICAL ENGINEER.
- 9. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY BERMS AT THE TOP OF ALL BATTERS TO DIRECT AND CONTROL RUNOFF TO A SINGLE LOCATION. THE DISCHARGE OVER THE BATTER SHALL BE THROUGH A STABILISED CHUTE ADDRESSED IN THE CONTRACTORS PLAN, e.g. REINFORCED TURF, GEOTEXTILE,
- 10. ALL BATTERS FRONTING THE ROAD RESERVES (AND NOT IN PRIVATE PROPERTY) SHALL BE FINISHED AT 1 ON 2 AND LANDSCAPED WITH LOW MAINTENANCE PLANTS IN ACCORDANCE WITH FNQROC DEVELOPMENT MANUAL
- 11. THE CONTRACTOR SHALL ENSURE THE PROPOSED CONSTRUCTION EQUIPMENT TO BE USED ON THE SITE WILL NOT DAMAGE EXISTING UNDERGROUND INFRASTRUCTURE, IN PARTICULAR HEAVY EQUIPMENT TRAVERSING OVER A.C. MAINS WITH NOMINAL COVERS.

# IMPORTED NON-PLASTIC FILL

1. AS METRIC SIEVE % PASSING BY WEIGHT

2. MINIATURE ABRASION LOSS PASSING 2.36mm

3. LINEAR SHRINKAGE PASSING 4.25um

- 4. MATERIAL RETAINED ON 2.36mm SIEVE SHALL CONSIST OF SOUND STONE
- 5. SOAKED CBR 15 AT 98% SRDD COMPACTION

### PAVEMENT

- 1. 150mm BASE COURSE TYPE 2.2 (CBR 60) COMPACTED TO 100% SRDD.
- 2 150mm SUB BASE COURSE TYPE 2.3 (CBR 45) COMPACTED TO 100% SRDD
- 3. SUB GRADE (CBR 5 MINIMUM) TRIMMED AND COMPACTED TO 98% SRDD
- SUB GRADE CBR (SOAKED AT 98% SRDD) TO BE CHECKED AND SUBMITTED TO THE ENGINEER FOR CONFIRMATION OF PAVEMENT DESIGN (REFER PAVEMENT SUBGRADE NOTES).

# GENERAL PAVEMENT NOTES

- THE CONTRACTOR SHALL ADVISE THE ENGINEER, IN WRITING, OF THE SOURCE OF GRAVEL SUPPLY, PROOF OF GRADING, CBR AND TYPE, AT LEAST ONE
  WEEK PRIOR TO PAVEMENT GRAVEL BEING DELIVERED TO THE SITE.
- 2. NO PAVEMENT GRAVEL SHALL BE DELIVERED TO THE SITE UNTIL AFTER THE CONTRACTOR HAS RECEIVED WRITTEN CONFIRMATION OF THE PAVEMENT
- 3. THE CONTRACTOR SHALL ENSURE THAT THE PAVEMENT COURSES ARE SET DOWN SUFFICIENTLY TO ALLOW FOR THE THICKNESS OF ASPHALT (AND/OR BITUMEN) SEAL COAT.

### ASPHALT - INTERNAL SITE WORKS

- THE PAVEMENT SHALL BE BROOMED CLEAN AND SHALL BE DRY PRIOR TO APPLYING PRIME COAT.
  PRIME COAT SHALL BE APPLED 48 HOURS PRIOR TO ASPHALT SEALING.
  APPLY 40mm OF APPROVED ASPHALT.
  THE PRIME COAT AND HOT MIX DESIGN SHALL BE SUPPLIED AND PLACED IN ACCORDANCE WITH TMR SPECIFICATION REQUIREMENTS, WITH POLYMER

#### ENVIRONMENTAL PROTECTION AND EROSION SEDIMENT CONTROL

- THE CONTRACTOR IS RESPONSIBLE WITHIN THE LIMITS IMPOSED BY THE WORKS, TO PROTECT AND PRESERVE THE NATURAL ENVIRONMENT AND
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INCORPORATION OF APPROPRIATE CONTROL MEASURES CONFORMING WITH THE
- REQUIREMENTS OF THE RELEVENT AUTHORITY 4. ALL BARE EARTH AREAS, FOOTPATHS, DRAINS AND CUT BATTERS UP TO 1 on 4 SLOPES SHALL BE DRILLED SEEDED WITH APPROVED GRASS SPECIES, FERTILISED AND MAINTAINED FOR THE REQUIRED MAINTENANCE PERIOD.
- 5. ALL CUT AND FILL BATTERS STEEPER THAN 1 on 4 SHALL BE HYDROMULCHED WITH APPROVED SUITABLE GRASS SPECIES AND MAINTAINED FOR

# FROSION SEDIMENT CONTROL STRATEGY AND ENVIRONMENTAL PROTECTION

- THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT AND PRESERVE THE NATURAL ENVIRONMENT AND SHALL AVOID ENVIRONMENTAL
  POLLUTION IN ACCORDANCE WITH THE ENVIRONMENTAL PROTECTION ACT.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INCORPORATION OF APPROPRIATE CONTROL AND MANAGEMENT MEASURES CONFORMING TO THE REQUIREMENTS OF THE ACT AND THE RELEVANT AUTHORITIES.
- 3. THE EROSION AND SEDIMENT CONTROL STRATEGY, SHOWN OR NOTED ON THESE DRAWINGS, HAS BEEN PROVIDED AS A GUIDE.
- 4. THE CONTRACTOR SHALL PROVIDE AN EROSION SEDIMENT CONTROL PLAN (ESCP) FOR EACH PHASE OF HIS PROPOSED CONSTRUCTION PROGRAM AND WORK METHODS, AND IS WHOLLY RESPONSIBLE FOR THE IMPLEMENTATION, CONTROL AND MANAGEMENT OF SUCH PLAN.
- 5. THE CONTRACTOR SHALL INSTALL ALL DEVICES/MEASURES NECESSARY TO COMPLY WITH THE PROVISIONS OF THE ESCP FNOROC DEVELOPMENT MANUAL, THE ENVIRONMENTAL PROTECTION ACT, AND COUNCIL REQUIREMENTS
- 6. THE ESCP SHALL INCLUDE SUCH MEASURES AS SHOWN ON THE STRATEGIC PLAN.
- 7. OSE GROUP DO NOT ACCEPT RESPONSIBILITY FOR THE CONTRACTOR'S DESIGN & IMPLEMENTATION OF HIS ESCP NOR THE CONSEQUENCES OF HIS FAILURE TO APPLY ALL REASONABLE CONTROLS.
- 8. ALL STORMWATER INLETS, TRENCHES, ETC, SHALL BE CONSTRUCTED IN SUCH A WAY AS TO PREVENT THE ENTRY OF SEDIMENT INTO TH STRUCTURE. IF IT IS NECESSARY TO DISCHARGE INTO SUCH INLETS THEN SUITABLE SILT TRAPS SHALL BE CONSTRUCTED UPSTREAM OF THE INLETS SUCH THAT OVERFLOW FROM TRAPS ENTERS THE DRAINS AFTER THE SEDIMENT HAS DROPPED OUT.
- 9. ALL SEDIMENT CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL THE END OF THE MAINTENANCE PERIOD, UNLESS NOTED OTHERWISE. ALL MENT CONTROL DEVICES ARE TO BE FULLY MAINTAINED IN AN EFFECTIVE WORKING CONDITION DURING CONSTRUCTION AND THE ITENANCE PERIOD. THE CONTRACTOR SHALL ENSURE THAT ALL SEDIMENT CONTROL DEVICES ARE KEPT FREE OF SEDIMENT BUILD-UP.
- 10. SEDIMENT FENCES SHALL BE INSTALLED SUCH THAT THE BASE OF THE FENCE IS PLACED 150MM MINIMUM BELOW GROUND LEVEL, AND ANCHORED SECURELY IN SUCH POSITION.
- 11. ALL VEHICLE EXIT POINTS SHALL HAVE SHAKER GRIDS, WASH BAYS OR SIMILAR TO PREVENT VEHICLES FROM TRACKING SOIL AND MUD OFF SITE.
- 12. ALL SOIL STOCKPILES SHALL BE PROTECTED AGAINST WIND EROSION BY COVERING AND AGAINST STORMWATER RUNOFF BY SILT FENCES AT THE DOWNHILL SLOPES. STOCKPILE LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR AND EROSION/CONTROL MEASURES IMPLEMENTED & MAINTAINED FOR THE LIFE OF THE STOCKPILE.
- 13. THE CONTRACTOR SHALL INSTALL TURF STRIPS BEHIND ALL KERB & CHANNEL, ADJACENT CONCRETE INVERTS AND ALLOTMENT DRAINS ETC WHERE DIRTY WATER SHEET FLOWS INTO DRAINAGE COLLECTION SYSTEMS
- 14 DIVERTICI FAN WATER AROUND AREAS OF CONSTRUCTION
- 15. DRILL SEED ALL ROAD SHOULDERS, FOOTPATHS, DRAINS AND CUT BATTERS UP TO 1 on 4 SLOPE SHALL BE DRILL SEEDED WITH APPROVED GRASS SPECIES, FERTILIZED AND MAINTAINED FOR THE REQUIRED MAINTENANCE PERIOD
- 16. HYDROMULCH ALL CUT AND FILL BATTERS STEEPER THAN 1 on 4, WITH APPROVED SUITABLE GRASS SPECIES AND MAINTAINED FOR THE
- 17 THE CONTRACTOR SHALL CONSTRUCT TEMPORARY BERMS AT THE TOP OF ALL BATTERS TO DIRECT AND CONTROL RUNOFF TO A SINGLE TO A SINGLE CONTROL FORM THE FORM AT THE TOP OF ALL BATTERS TO DIRECT AND CONTROL RUNOFF TO A SINGLE LOCATION. THE DISCHARGE OVER THE BATTER SHALL BE THROUGH A STABILIZED CHUTE ADDRESSED IN THE CONTRACTORS PLAN, e.g. REINFORCED TURF, GEOTEXTILE, CONCRETE OR SIMILAR.
- 18. ALL WORKS AND MATERIALS SHALL BE IN ACCORDANCE WITH FNOROC

# TRENCHES (DRAINAGE, SEWERAGE, SERVICES)

1. PLACE AND COMPACT SAND BEDDING, SAND SURROUND AND SAND BACKFILL TO ALL TRENCHES UP TO THE UNDERSIDE OF THE PAVEMENT IN

PLANS AND DOCUMENTS referred to in the SDA APPROVAL



SDA approval: AP2022/011

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ASPHALT & CONCRETE BATCHING PLANT WARNER ROAD - GORDONVALE

PDR

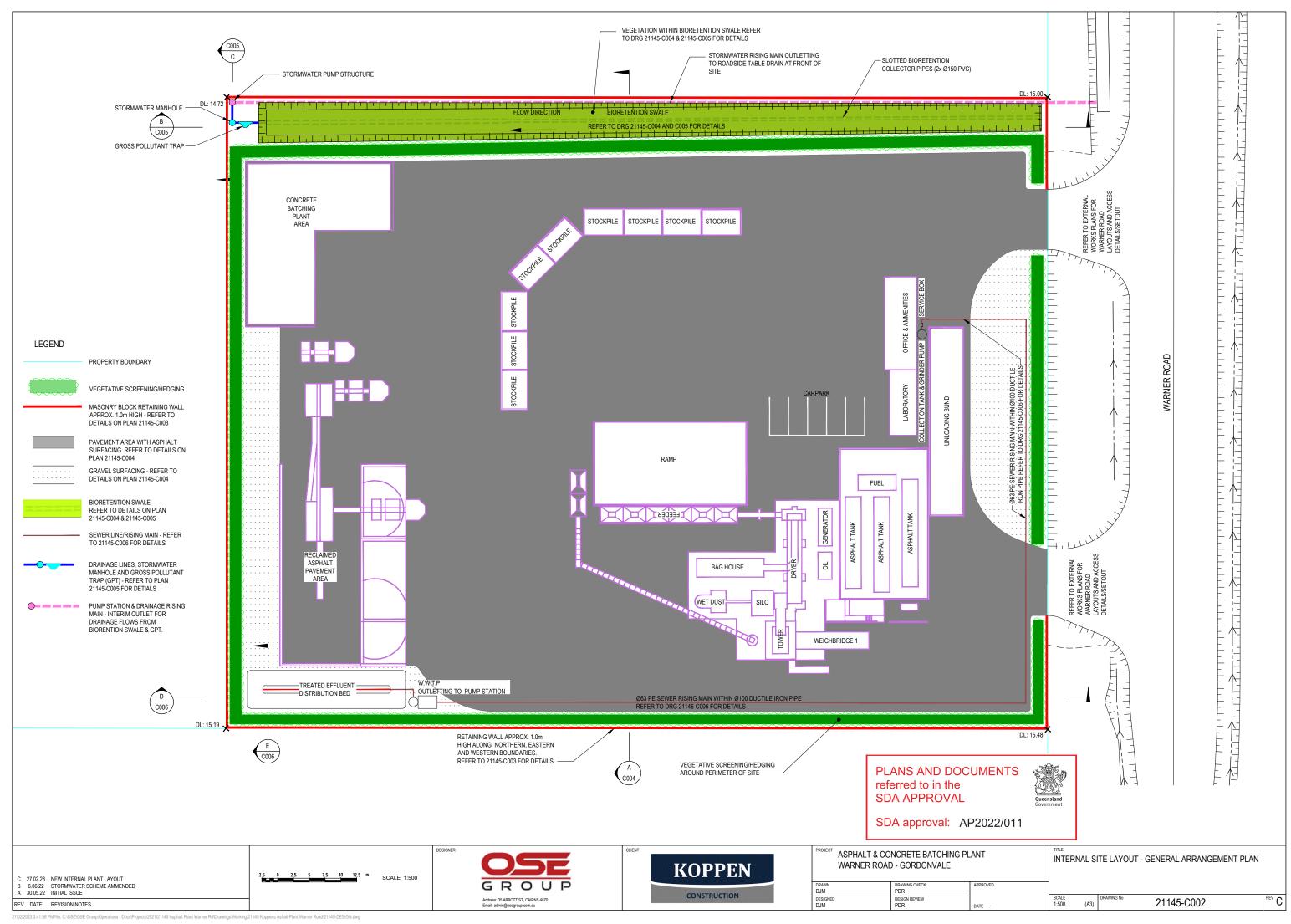
DESIGN REVIEW

**ENGINEERING NOTES** 

21145-C001

REV DATE REVISION NOTES

A 30.05.22 INITIAL ISSUE



### SITE PREPARATIONS, EARTHWORKS AND FOUNDATION NOTES

- THE DESIGN OF THE STRUCTURE HAS BEEN BASED ON THE FOUNDATION HAVING A MINIMUM BEARING CAPACITY OF 100 KPA.
  BEFORE ANY CONCRETE IS PLACED, THE SAFE BEARING CAPACITY OF THE GROUND SHALL BE VERIFIED WITH A GEOTECHNICAL INVESTIGATION. IF THE BEARING PRESSURE IS ASSESSED AS BEING LESS THAN THE SPECIFIED, THE DESIGN ENGINEER IS TO BE NOTIFIED IN WRITING.
- 3. DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EXCAVATIONS IN STABLE CONDITIONS. PROTECT SURROUNDING PROPERTY AND SERVICES FROM ADVERSE EFFECTS OF GROUND WORKS. PROVIDE TEMPORARY WORKS AS REQUIRED. PROVIDE SHORING CERTIFIED BY SUITABLY QUALIFIED

- SERVICES FROM ADVERSE EFFECTS OF GROUND WORKS. PROVIDE TEMPORARY WORKS AS REQUIRED, PROVIDE SHORING CERTIFIED BY SUITABLY QUALIFIED STRUCTURAL REGINEER TO ALL DEEP EXCAVATIONS WHERE REQUIRED.

  DO NOT UNDERMINE EXISTING FROTINGS.

  KEEP EXCAVATIONS FREE OF WATER. PROVIDE ADEQUATE DRAINAGE TO ENSURE FOUNDATION IS NOT AFFECTED BY MOISTURE. PREVENT FOUNDATION DRYING OUT DUE TO EXPOSURE. PLACE BLINDING, FOOTINGS, PILES AND BACKFILL AS SOON AS PRACTICABLE AFTER EXCAVATION.

  EARTHWORKS SHALL BE IN ACCORDANCE WITH ASSYS "GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS" AND AS FOLLOWS.

  STRIP BUILDING PLATFORM OF ALL TOPSOL AND VEGETATION TO A MINIMUM DEPTH OF 150MM AND STOCKPILE. REMOVE ALL DELETERIOUS MATTER.

  THE CONTRACTOR SHALL CHECK ALL EXCAVATIONS FOR ORGANIC MATERIAL AND RUBBISH. IF ANY OF THIS MATERIAL IS FOUND, IT SHALL BE REMOVED FROM THE WORKS TO A DIA OF RESIGNATION BY THE SUPERINTENDENT TO A PLACE DESIGNATED BY THE SUPERINTENDENT.
- UNLESS NOTED OTHERWISE IN SPECIFICATION, FOOTING AND SLABS SHALL BE FOUNDED ON COMPACTED MATERIAL OR CONTROLLED FILL COMPACTED IN ACCORDANCE WITH THE FOLLOWING AS APPROPRIATE FOR MATERIAL TYPE:

  (A) SANDS WITH 5% FINES OR LESS, FILED DENSITY INDEX NOT LESS THAN 65% OF LABORATORY REFERENCE DENSITY DETERMINED IN ACCORDANCE WITH AS 1289,5.6.1.

  (B) SILTS AND SANDS WITH MORE THAN 5% FINES, DRY DENSITY RATIO OF NOT LESS THAN 98% OF LABORATORY REFERENCE DENSITY DETERMINED IN ACCORDANCE
- (C) CLAYS, DRY DENSITY RATIO OF NOT LESS THAN 95% OF LABORATORY REFERENCE DENSITY DETERMINED IN ACCORDANCE WITH AS 1289, 5.1.1 OR 90% IN ACCORDANCE WITH AS 1289.5.2.1-1. CLAY FILL SHOULD BE MOIST TO ALLOW COMPACTION AND REDUCE SUBSEQUENT MOVEMENT. REACTIVE CLAY FILL SHOULD BE
- EXPOSURE OF EXCAVATED FOOTINGS SHALL BE MINIMISED TO PREVENT LOCALISED MOISTURE CHANGES DURING THE CONSTRUCTION PERIOD
- EAP-OSURE OF EACHAPTED FOUR INSS SHALL BE (OFFICENCE) LOCALISED MOISTORE UNANGES DURING THE CONSTRUCTION PERIOD.

  BACKFILL AND REQUIRED FILL UNDER SLABS AND FOOTINGS SHALL BE CONTROLLED FILL OF APPROVED NON-PLASTIC/ GRANULAR MATERIAL, MIN SOAKED CBR VALUE OF 15%, COMPACTED IN 200MM MAXIMUM THICK LAYERS TO 98% SRDD AND PLACED STRICTLY TO AS 3798.

  MATERIAL WON FROM THIS SITE TO BE INSPECTED BY THE GEOTECHNICAL ENGINEER FOR APPROVAL PRIOR TO USE AS FILL.

  TREE REMOVAL: WHERE A TREE IS REMOVED, EXCAVATE 200MM BELOW EXTENT OF ROOT BALL. COMPACT EXPOSED SURFACE TO 98% SRDD TO A DEPTH OF AT LEAST
- 250MM, PLACE FILL AS UNDER CLAUSE 9.
- 12. A 50MM MINIMUM BLINDING LAYER OF SAND, COMPACTED TO 95% MAX DRY DENSITY SHALL BE APPLIED TO THE BASE OF ALL SLABS-ON-GROUND IMMEDIATELY AFTER
- A SOMM MINIMUM BLINDING LAYER OF SAND, COMPACTED TO 95% MAX DRY DENSITY SHALL BE APPLIED TO THE BASE OF ALL SLABS-ON-GROUND IMMEDIATELY AFTER VERIFICATION OF THE BEARING CAPACITY BY THE GEOTECHNICAL ENGINEER.
   DAMP PROOF MEMBRANE UNDER FOUNDATIONS TO BE 0.2MM THICK POLYETHYLENE FILM. LAP JOINTS 200MM. SEAL LAP PENETRATIONS AND ANY PUNCTURES WITH DOUBLE-SIDED BUTYL ADHESINE TAPE.
   WHERE THE FOUNDING MATERIAL IS DEEPER THAN REQUIRED FOR THE FOOTING, THE EXCAVATION IS TO BE BACKFILLED WITH A WEAK MIX CONCRETE (N10) TO THE UNDERSIDE OF THE FOOTING.
- 15. FOLLOWING CONSTRUCTION FOUNDATION MAINTENANCE TO BE IN ACCORDANCE WITH CSIRO BUILDING TECHNOLOGY FILE 18 "FOUNDATION MAINTENANCE AND FOOTING PERFORMANCE: A HOMEOWNER'S GUIDE".

# CONCRETE AND REINFORCEMENT NOTES

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600
- MINIMUM COVER TO ALL REINFORCEMENT AGAINST SURFACES SHALL BE AS FOLLOWING U.N.O.
  (I) FOOTINGS 75mm BOTTOM, 65mm SIDES AND TOP
- COVER SHALL BE 45mm WHERE SURFACE IS EXTERIOR ABOVE GROUND.
- (II) COVER SHALL BE 40/INIT WHERE SURFACE IS SELENOR ABOVE DROUND.

  (V) WITHIN CONCRETE MASONRY BLOCK 10/Init.

  SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES. ALL CONCRETE THICKNESSES SHOWN ARE MINIMUM STRUCTURAL REQUIREMENTS; NO REDUCTION IN THICKNESS DUE TO FALLS OR TOPPING IS PERMITTED. REFER ARCHITECTS DRAWINGS FOR CONFIRMATION OF ALL SLAB FALLS AND STEPS.

  NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT PRIOR
- APPROVAL OF THE ENGINEER. CONSTRUCTION JOINTS SHALL HAVE CONCRETE FACES FULLY SCABBLED, CLEANED AND COATED WITH A CEMENT/WATER SLURRY IMMEDIATELY PRIOR TO PLACING
- ADJACENT CONCRETE; AND ARE TO BE USED ONLY WHERE SHOWN OR SPECIFICALLY APPROVED. CONTROL JOINTS SHALL BE CONSTRUCTED AS SPECIFIED
- CONTROL JOINTS STAILL BE COARTED OUT WITHIN 6 HOURS OF CONCRETE HARDENING.
  STEEL REINFORCEMENT IS TO COMPLY WITH AS 3600 AND ASINZ 4671., AND IS REPRESENTED DIAGRAMATICALLY, FSY = 500MPa.
  U.N.O., SPLICING OF REINFORCEMENT IS TO BE A MINIMUM OF:
- - TWO CROSS WIRES PLUS 25mm

- MESH TWO CROSS WIRES PLUS 25mm
  HORIZONTAL BARS WITH MORE THAN 300mm CONCRETE UNDER THEM SHALL HAVE LAPS 1.25 TIMES THESE LENGTHS.

  10. WELDING OR SITE BENDING OF REINFORCEMENT IS NOT PERMITTED WITHOUT APPROVAL OF THE ENGINEER.

  11. ALL REINFORCEMENT SHALL BE SUPPORTED IN ITS CORRECT POSITION DURING CONCRETING, BAR CHAIRS AT 800mm MAX. CENTRES BOTH DIRECTIONS. SUPPORTS OVER MEMBRANES ARE TO BE PLACED SO AS TO PREVENT PUNCTURING OF THE MEMBRANE.

  12. FORMWORK SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH AS3610 FORMWORK FOR CONCRETE AND ALL RELEVANT CONSTRUCTION SAFETY.
- LEGISLATION. U.N.O, FINISHES SHALL BE CLASS 2. MINIMUM FORMWORK STRIPPING TIMES FOR IN-SITU CONCRETE SHALL BE IN ACCORDANCE WITH SECTION 5.4.3, TABLE 5.4.1 OF AS 3610.
- CONCRETE SHALL HAVE THE FOLLOWING PROPERTIES.
- CONCRETE SPECIFICATION, U.N.O. ON DRAWINGS:

	CLASS & GRADE	SLUMP	MAX. AGG. SIZE
BASE SLAB OF RETAINING WALL	N32	80mm ± 15mm	20mm
FILLING 200 & 300 CM	N20	220mm ± 30mm	10mm

METHOD OF PLACEMENT BY PUMP

- PROJECT ASSESSMENT IS NOT REQUIRED.
- PROVIDE A 10mm x 10mm CHAMFER TO EXPOSED EDGES ON CONCRETE UNO.
  CURE CONCRETE IN ACCORDANCE WITH AS3600 FOR 7 DAYS AND PRIOR TO THE REMOVAL OF FORMWORK.

# CONCRETE MASONRY NOTE

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3700.

  REFER TO PUBLICATIONS "MA54 CONCRETE MASONRY WALLING- SINGLE-LEAF MASONRY DESIGN MANUAL", "MA45 "CONCRETE MASONRY HANDBOOK" AND "MA55 DESIGN AND CONSTRUCTION OF CONCRETE MASONRY BUILDINGS" BY CMAA FOR DETAILS ON WORKMANSHIP, FIXING TO GABLE ENDS, BASEMENT WALLS, TANKING, WATERPROOFING ETC. MINIMUM OF 20MM ROULT COVER TO ANY STEEL BEINFORCEMENT MEMBER.

  CHASES OR HOLES SHALL NOT BE MADE WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. EMBEDDED ITEMS SHALL NOT BE PLACED INSIDE CORES CONTAINING

- REINFORCEMENT.

  ALL WALL INTERSECTIONS SHALL BE OF BONDED CONSTRUCTION FOR INTERNAL NON-LOADBEARING UNREINFORCED WALLS (MASONRY MESH, 500 LONG, AT 400 CRS VERT)

  OR TIED FOR INTERNAL LOAD BEARING REINFORCED WALLS (1.8 TIES AT 400 CRS VERT, BENT DOWN 100mm INTO GROUTED CORES).

  BUILD IN ALL FIXINGS FOR ARCHITECTURAL DETAILS NOT SPECIFICALLY SHOWN ON THE ENIGINEER'S DRAWINGS.

  CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF CONCRETE BLOCKS TO ASNIZS 4455-1:2008 AND DR04313 SHALL BE FUC = 15MPB.

  REINFORCEMENT AND CONCRETE MASONRY BLOCK CORE FILLING SHALL COMPLY WITH THE NOTES ON "CONCRETE AND REINFORCEMENT". GROUT SHALL HAVE A CEMENT

  CONTENT OF NOT LESS THAN 300kg/m3.

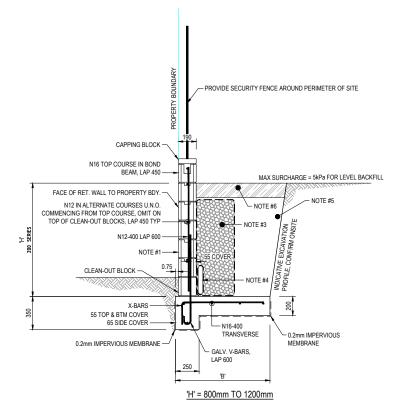
  PROVIDE CLEANOUT BLOCKS AT THE BASE OF EVERY CORE TO BE FILLED AND HAVE ALL MORTAR DROPPINGS REMOVED PRIOR TO COMMENCEMENT OF CORE FILLING.

  ALTERNATIVELY THE BILL IN DES SHALL DOES SIZE OF SIZE OF ROLL CANNING BY AN APPROVED METHOD.
- ALTERNATIVELY, THE BUILDER SHALL OPEN SUCH CORES FOR CLEANING BY AN APPROVED METHOD.
- ALLERMATIVELY, THE BUILDER SHALL DYEN SOUTH CORES FOR CLEANING BY AN APPROVED A THIRD.
  ALL CORES TO BE CONCRETE FILLED SHALL BE CLEANED OUT BY HOSING PRIOR TO FINAL SETTING OF MORTAR AT ALL LIFTS, OR BY RODDING PRIOR TO CONCRETE FILLING. MORTAR USED IN BLOCKWORK THAT IS TO BE GROUTED OR REINFORCED SHALL BE OF CLASSIFICATION M3 TO AS 3700, FOR GENERAL PURPOSE APPLICATION WITH MODERATE EXPOSURE; REFER TO CMAA'S RECOMMENDATIONS IN "CM01 CONCRETE MASONRY - HAND BOOK"

CLASS	CEMENT	LIME	SAND	METHYL CELLULOSE (DYNEX) WATER THICKENER ADDED						
M3 (CHARACTERISTIC COMPRESSIVE	1	1	6	OPTIONAL						
STRENGTH 20 MPa)	1	1 0 5 YES								
		- CEMENT CONTENT NOT LESS THAN 300kg/m <sup>3</sup> - COARSE AGGREGATE SIZE MAX 10mm								

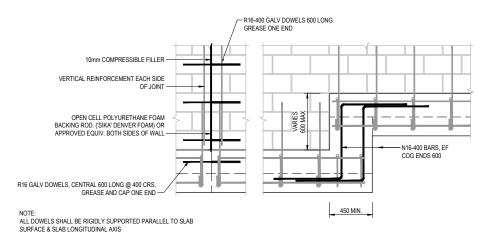
- REFER TO CMAA'S RECOMMENDATIONS IN "CM01 CONCRETE MASONRY HAND BOOK".
  BOND BEAM REINFORCING SHALL BE CONTINUOUS AT WALL INTERSECTIONS AND BARS ANCHORED AND LAPPED TO DEVELOP FULL TENSILE STRENGTH
- A CANTILEVER RETAINING WALL SHALL BE PROPPED UNTIL CORE FILL HAS ATTAINED ITS DESIGN STRENGTH. IF BACKFILL IS TO BE PLACED BEHIND THE WALL.
- A PROPPED CANTILEVER RETAINING WALL SHALL BE PROPPED UNTIL THE SUPPORTING SLAB OVER HAS ATTAINED ITS DESIGN STRENGTH.

  MAXIMUM HEIGHT FOR GROUT FILLING OF HOLLOW CORES IS LIMITED TO 2400mm IN ONE POUR AND TO 3000mm IN TWO POURS ABOUT 30 MINUTES APART.



# **RETAINING WALLS - TYPE 1**

PROVIDE WALL CONTROL JOINTS AT MAX 10m CENTRES. PROVIDE EXPANSION JOINT IN BASE SLAI AT SAME LOCATIONS.



EXPANSION JOINT DETAIL

FOOTING STEP DETAIL



# NOTES:

- 'H' MASONRY BLOCKS (SEE DETAIL FOR WIDTH). FILL ALL CORES WITH 20MPa CONCRETE, PAINT SURFACE OF WALL INTERFACING SOIL WITH 2 COATS OF AN APPROVED BITUMASTIC SEALANT IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATION OR SIMILAR APPROVED WATER-PROOF MEMBRANE.
- MIN. 10mm CRUSHED ROCK DRAINAGE FILL MATERIAL (300 MIN WIDE). WRAPPED IN GEOTEXTILE FABRIC, LAP 600.
- 3. 300 MEGAFLO (MIN.) SIZE TO BE CONFIRMED BY ENGINEER, ALTERNATIVELY; 2-Ø100 AGLINE PIPES WRAPPED IN
- 4. IMPORTED CLEAN BACKFILL MATERIAL COMPACTED TO 85% SRDD.
- 5. 150mm THICK COMPACTED CLAY SURFACE SEAL.
- ADDITIONAL LOADS APPLIED FROM FENCING STRUCTURES PLACED ON TOP OF THE RETAINING WALLS HAVE NOT BEEN ALLOWED FOR IN THIS DESIGN. CONSULT ENGINEER IF FENCING STRUCTURES ARE PROPOSED.

PLANS AND DOCUMENTS referred to in the SDA APPROVAL



SDA approval: AP2022/011







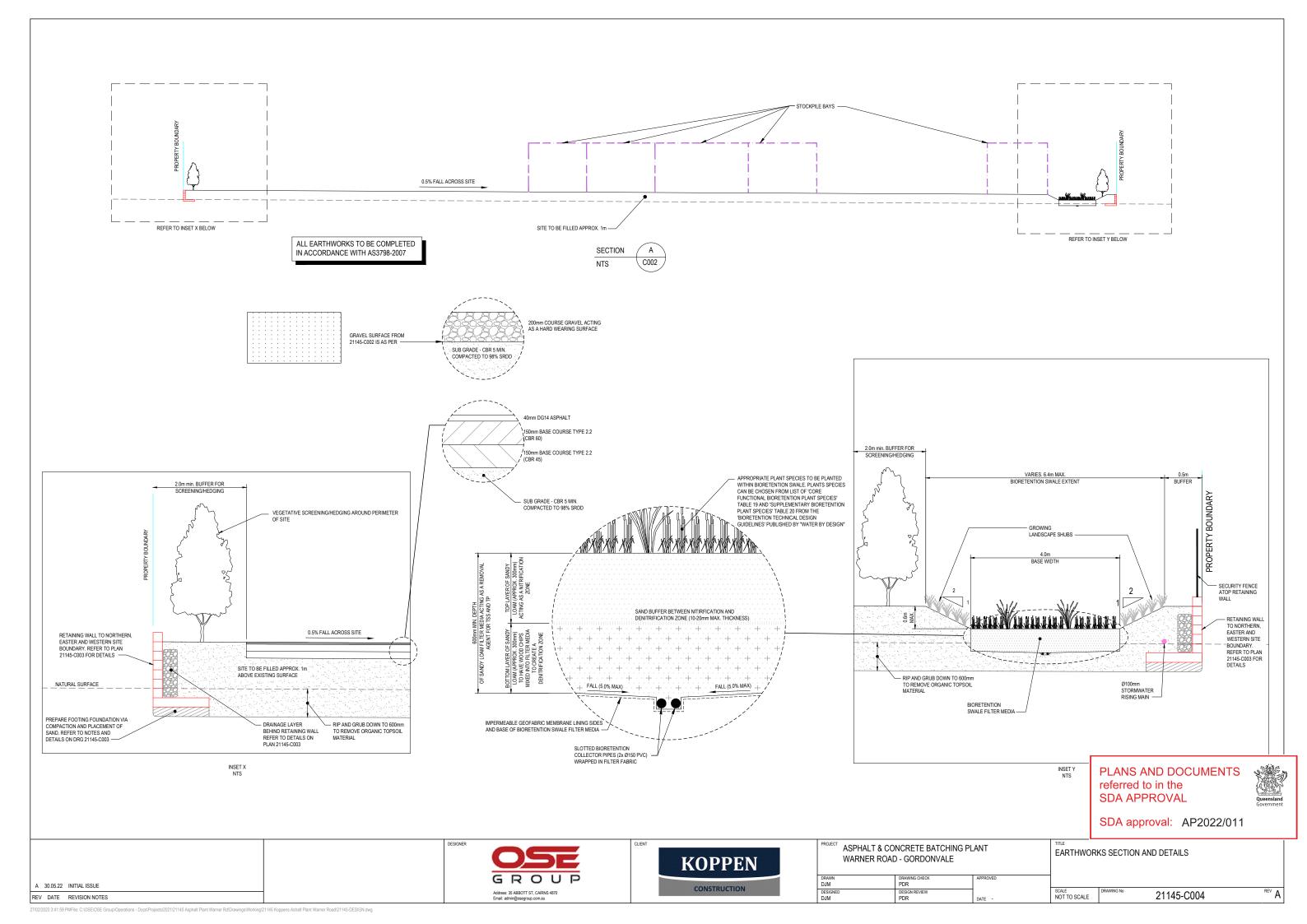


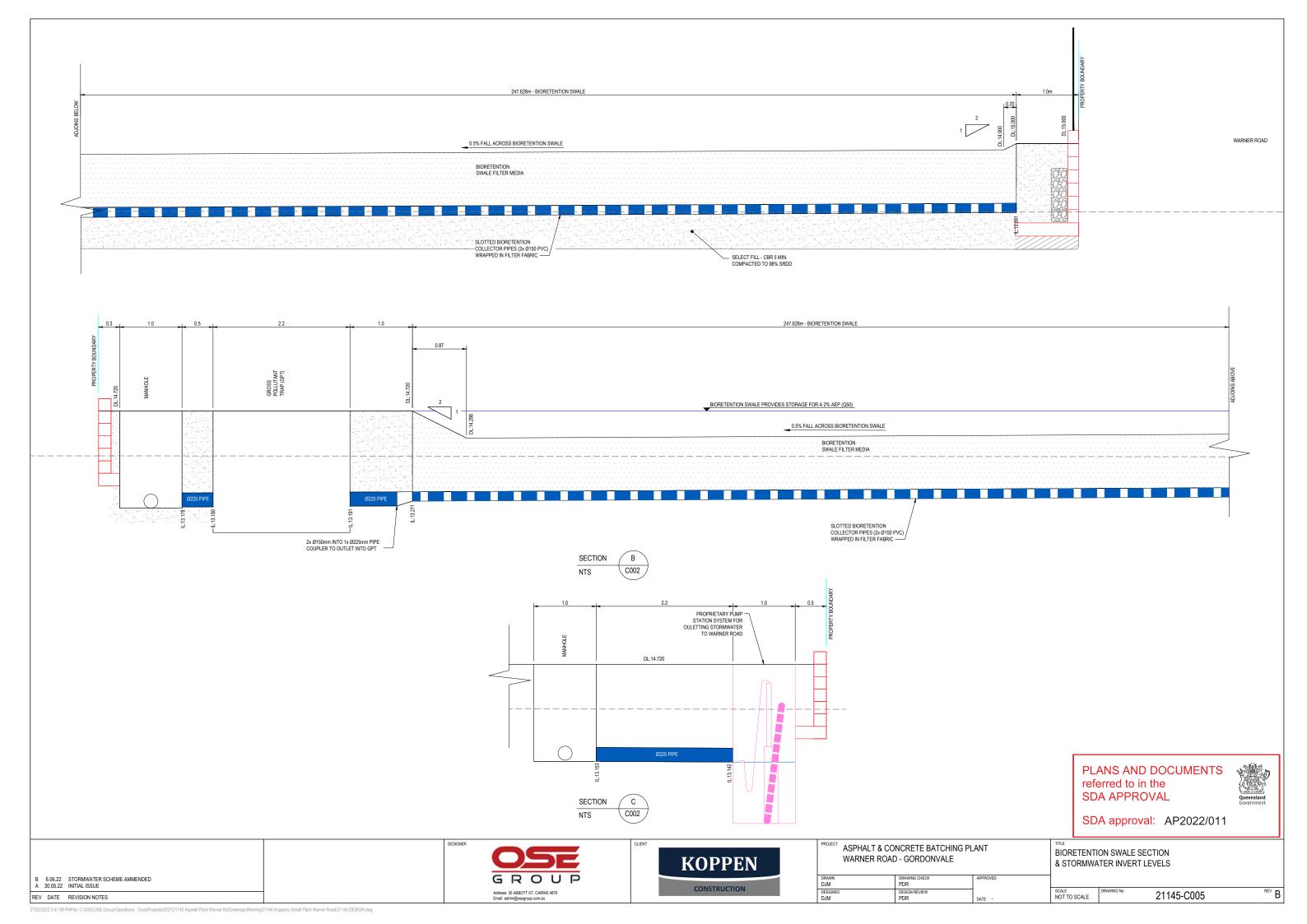
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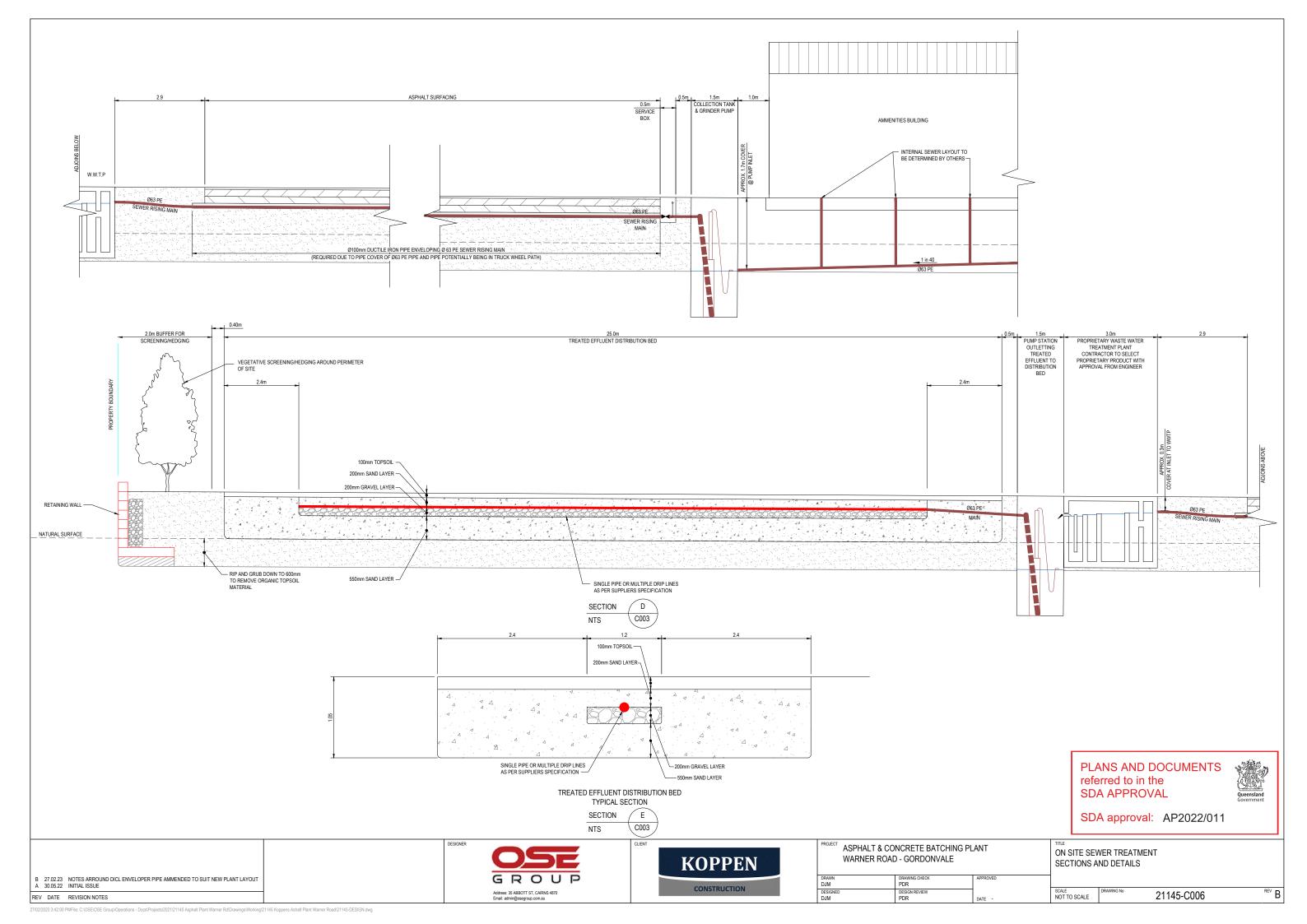
**RETAINING WALL DETAILS** 

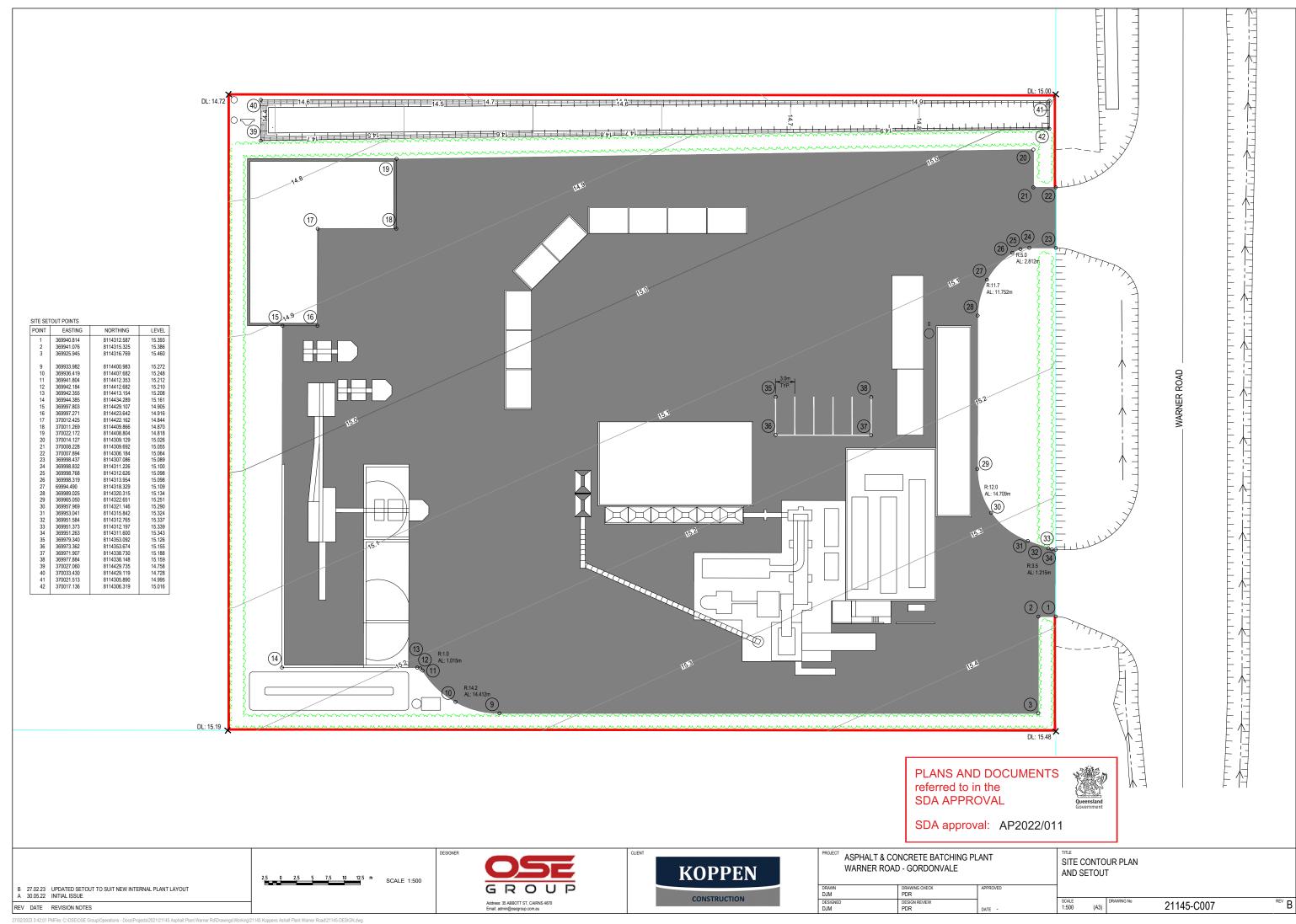
21145-C003

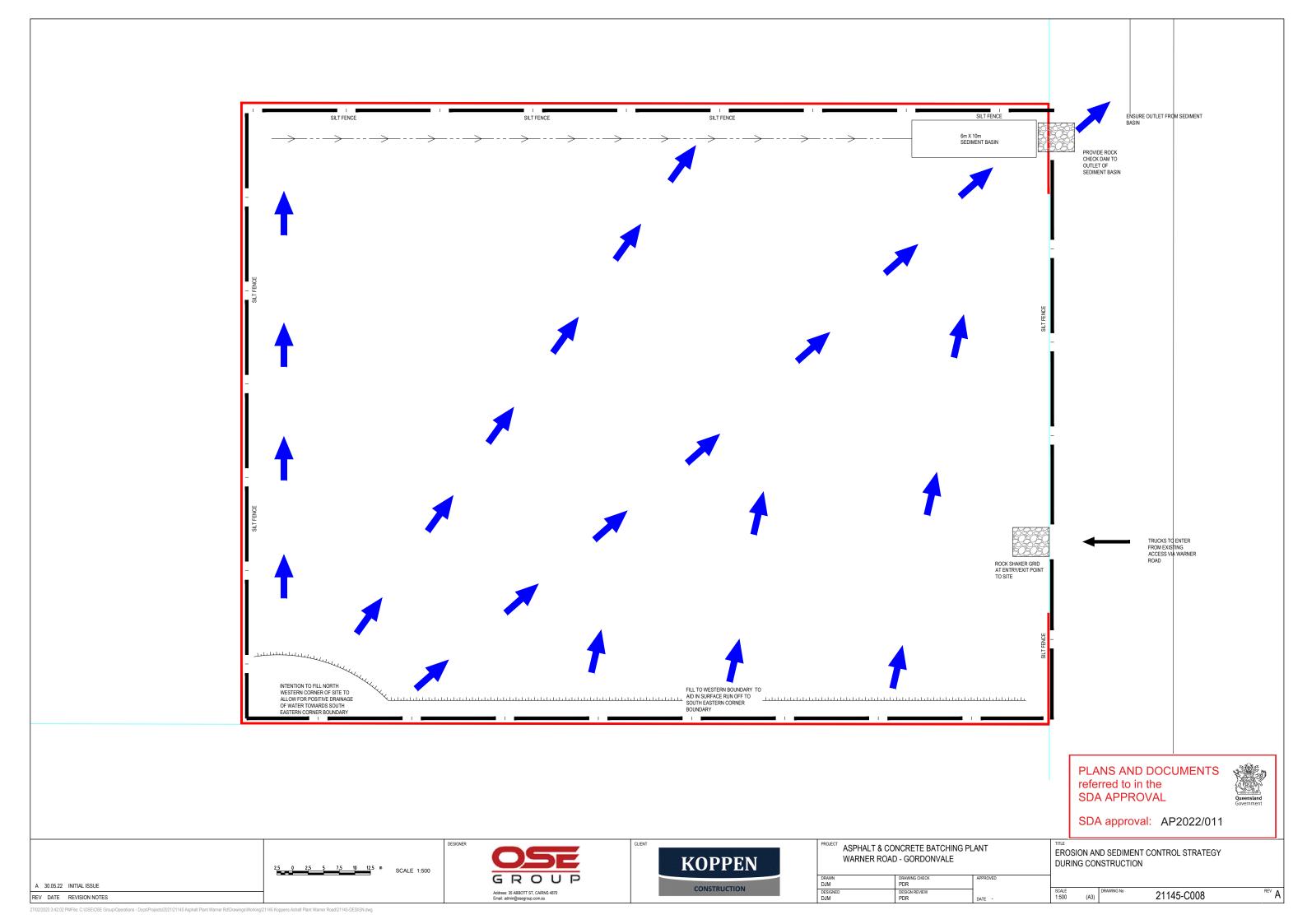
A 30.05.22 INITIAL ISSUE

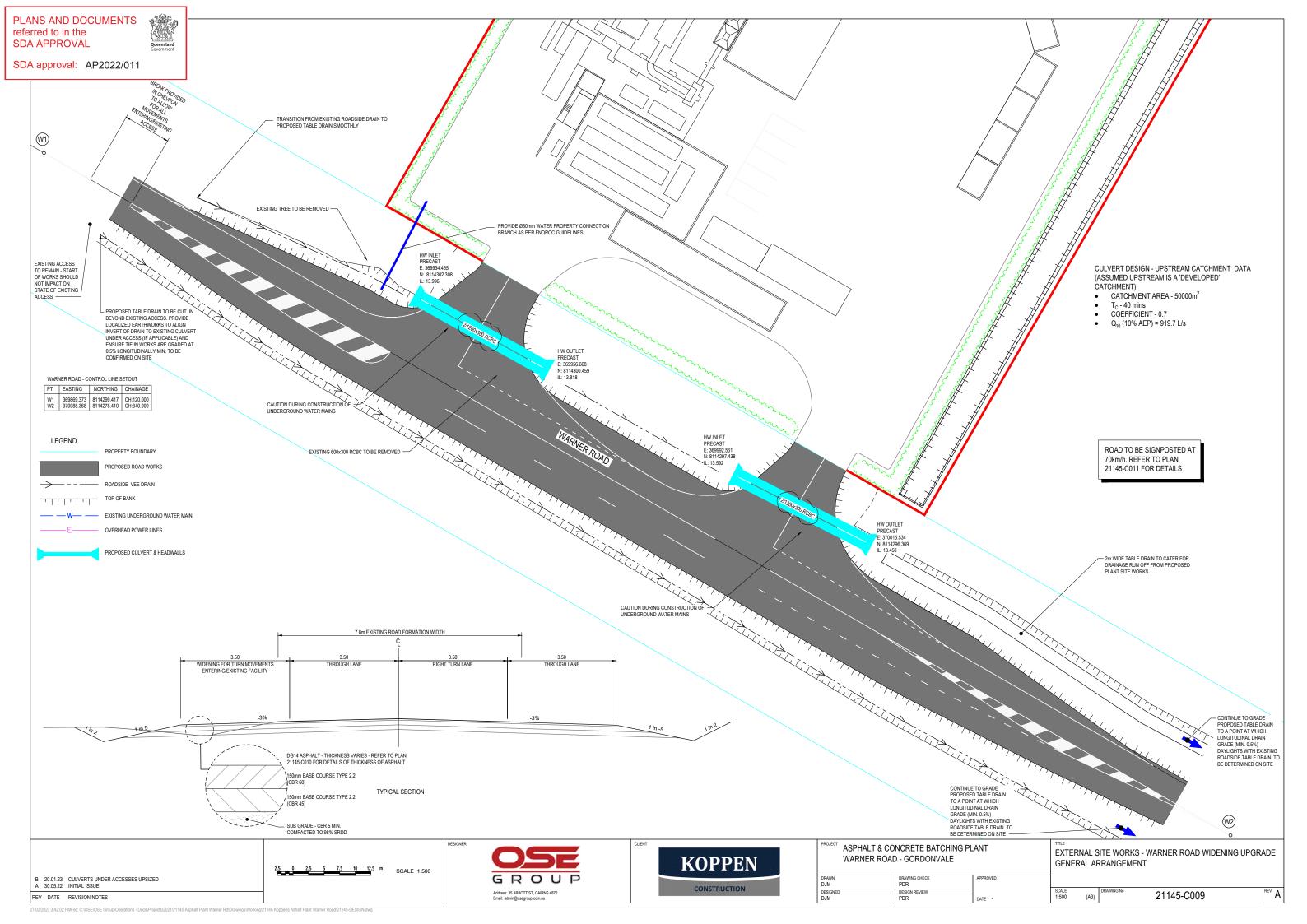


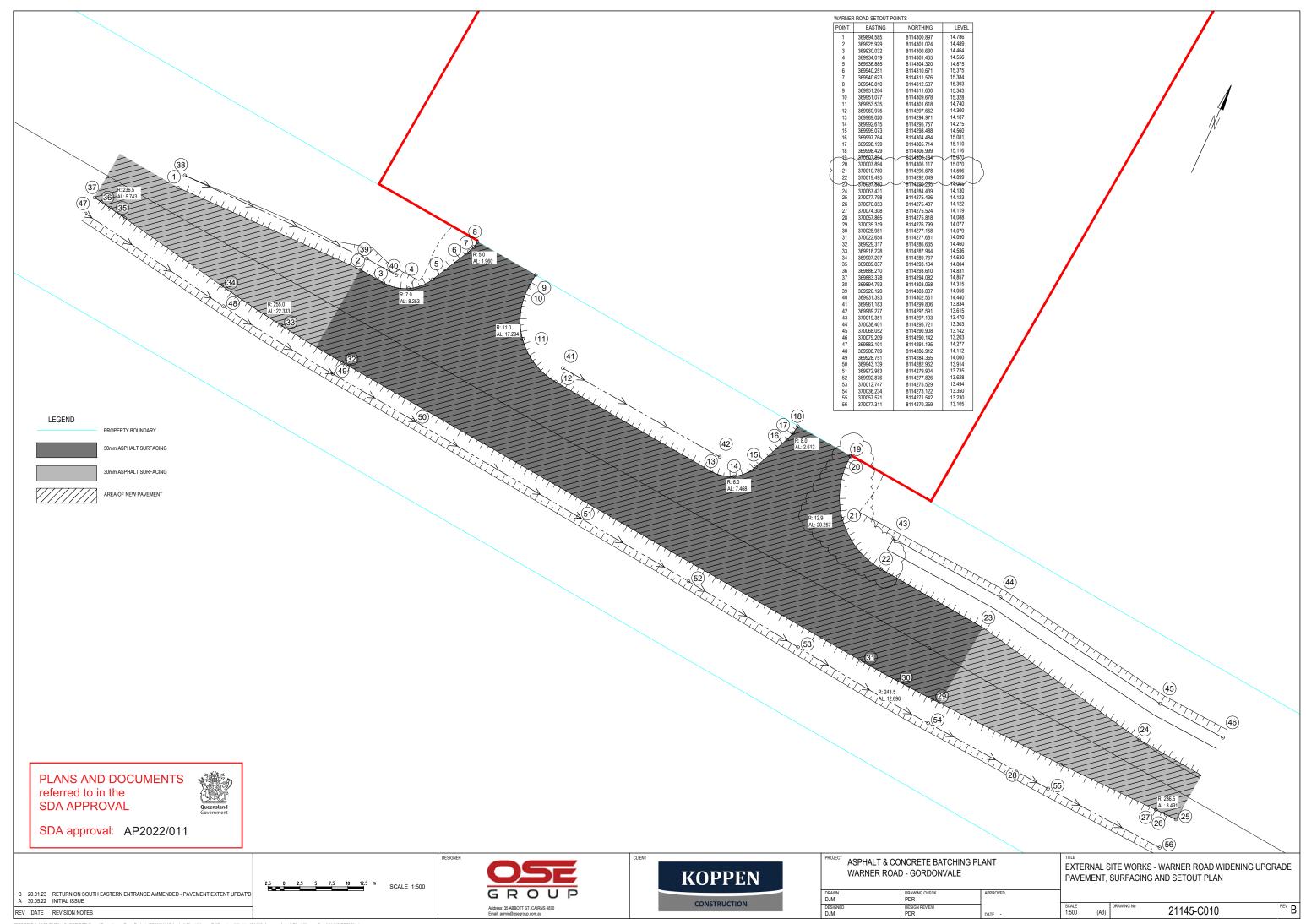




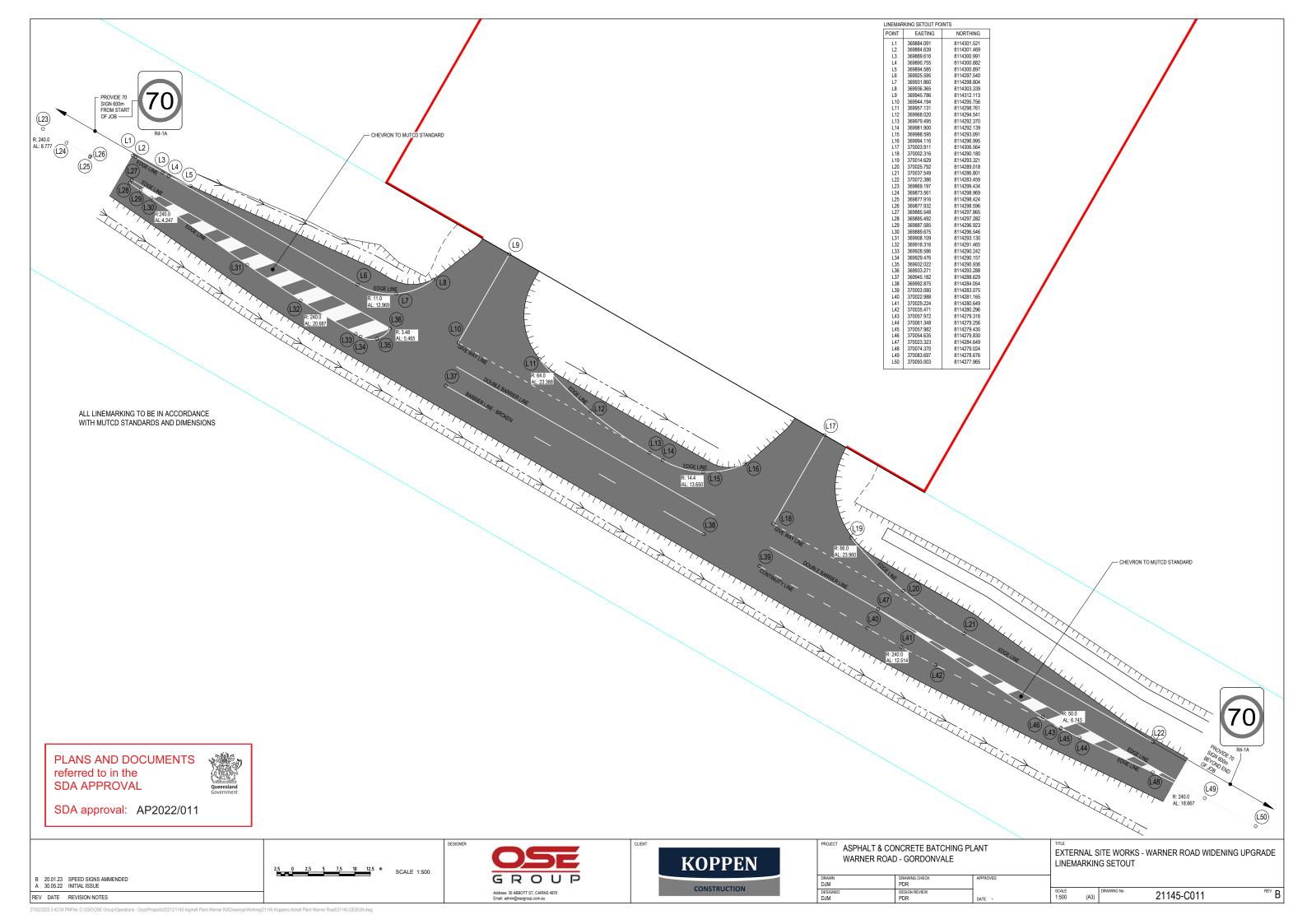


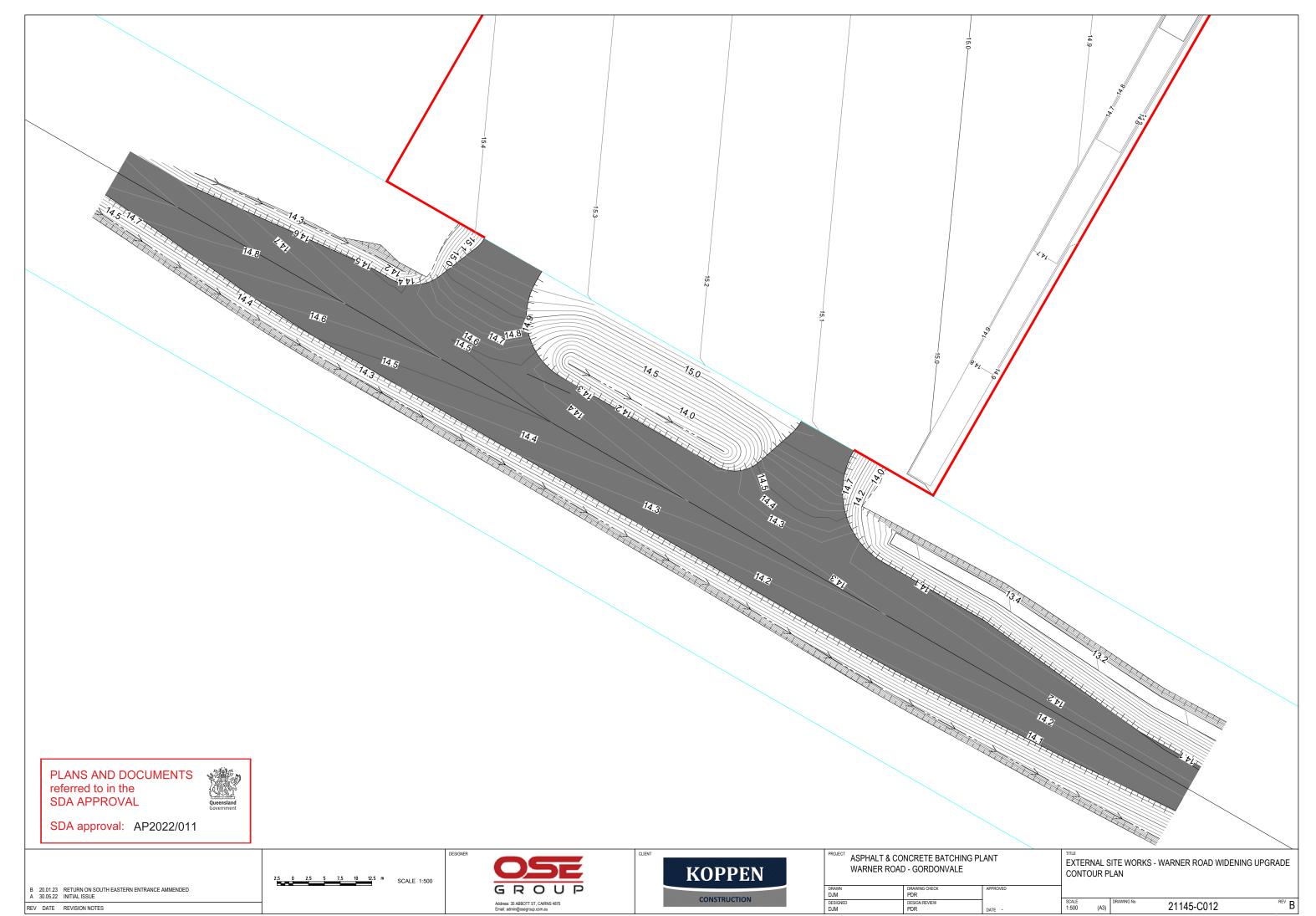






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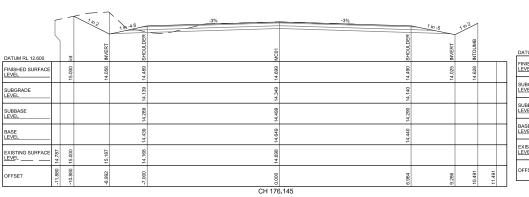


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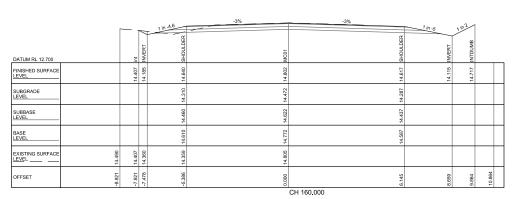
PLANS AND DOCUMENTS referred to in the SDA APPROVAL

Queensland Government

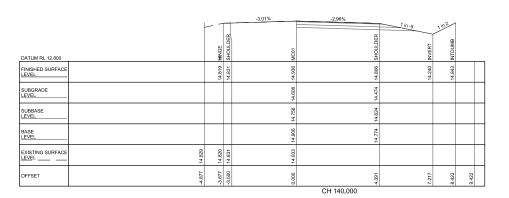
SDA approval: AP2022/011

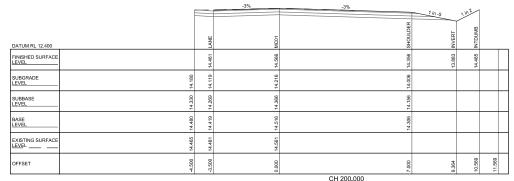


					-3%	-3%		1 in 2	
		7	₹#Z	_			1 in -5	1111	
DATUM RL 12.300		Œ	INVERT	SHOULDER	1001	SHOULDER	N THE THE THE THE THE THE THE THE THE THE	INTDUMB	
FINISHED SURFACE LEVEL		14,191 ir	13.721	14.262 8	14.472 h	14,282 S			
SUBGRADE LEVEL				13.912	14.122	13.912			
SUBBASE LEVEL				14.062	14.272	14.062			
BASE LEVEL				14.212	14.422	14.212			
EXISTING SURFACE LEVEL	14.185	14,191	14.196	13.987	14.465				
OFFSET	11.428	-10.428	9.488	-7.000	0.000	7.000	9.494 494	10.699	11.699
					CH 2	20.000			



	_		1111-4.6	-3%	-3%	1 in -5	11/12	1	
DATUM RL 12:300		INVERT NO	SHOULDER	WOO1	SHOULDER	18	<b>_</b>		
FINISHED SURFACE LEVEL		13.772	14.301	14.511	14.301	13.813	14.416		
SUBGRADE LEVEL			13.960	14.161	13.951				
SUBBASE LEVEL			14.110	14.311	14.101				
BASE LEVEL			14.260	14.461	14.251				
EXISTING SURFACE LEVEL	14.285	14.275	14.072	14:507					
OFFSET	11 469	9.430	-7.000	0000	0002	4 5 7	10.642	11.642	
				CH 2	11.351	•			





	R	_	-3%	-3%	1 in -5	11/12		
DATUM RL 12.100		LANE	MC01	SHOULDER	THE	_		
FINISHED SURFACE LEVEL		14.229	14.334	14.124	13.527	14,129		
SUBGRADE LEVEL	13.933	13.884	13.984	13.774				
SUBBASE LEVEL	14.083	14.034	14.134	13.924				
BASE LEVEL	14.233	14.184	14.284	14.074				
EXISTING SURFACE LEVEL	14.134	14.246	14.327					
OFFSET	4.500	3.500	0.000	2000		11.193	12.193	
				CH 260.000			-	

				-3.01%	-2.92%			
DATUM RL 12.800		int	SHOULDER	MC01	SHOULDER	1#1.5	NYDOWN	
FINISHED SURFACE LEVEL		14.857	14.867	14.973	14.857	14.277	14.880	
SUBGRADE LEVEL				14,643	14.524			
SUBBASE LEVEL				14.793	14.674			
BASE LEVEL				14.943	14.824			
EXISTING SURFACE LEVEL	14.632	14.857	14.870	14.971	14.863	14.830		
OFFSET	-4.904	3.904	-3.500	0.000	3.973	6.873	8.078	9.078
				•	CH 134,450	•		

	Г		7/2	1m-4.6	-3%	-3%		1 in -5	11/12	1
DATUM RL 12.600		int	INVERT	SHOULDER	M001		SHOULDER	INVERT	INTDUMB	
INISHED SURFACE EVEL		14.479	14.023	14.466	14.676		14.466	14.003	14.605	
SUBGRADE LEVEL				14.125	14.326		14.116			
SUBBASE LEVEL				14.275	14.476		14.266			
BASE LEVEL				14.425	14.626		14.416			
EXISTING SURFACE	14,487	14.479	14.902	14.187	14.673					
DFFSET	10.948	9.948	-9.035	-7.000	000'0		7.000	9.313	10.518	11.518

			-3%	-3%	- 11	1 in 2	1	
DATUM RL 12:200	-	LANE	MC01	SHOULDER	1 in -5	[ <sub>e</sub>		
FINISHED SURFACE LEVEL		14.290	14.395	14.185	13.657	14.260		
SUBGRADE LEVEL	13.908	13.937	14.045	13.835				
SUBBASE LEVEL	14.058	14.087	14.195	13.985				
BASE LEVEL	14.208	14.237	14.345	14.135				
EXISTING SURFACE LEVEL	14.659	14.299	14.381					
OFFSET	-4.500	-3.500	0.000	7.000	80 60 60	10.843	11.843	
				CH 240.000				

B 24.01.23 ROAD PAVEMENT UPDATED TO FULL PAVEMENT REPLACEMENT
REV DATE REVISION NOTES

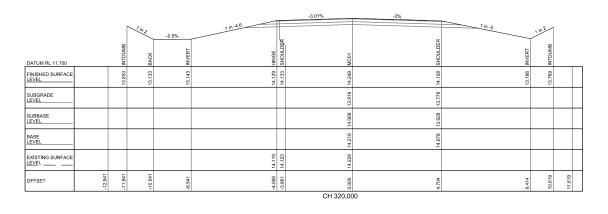




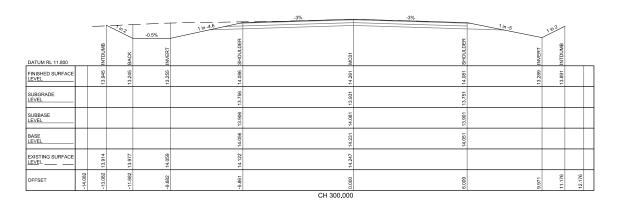


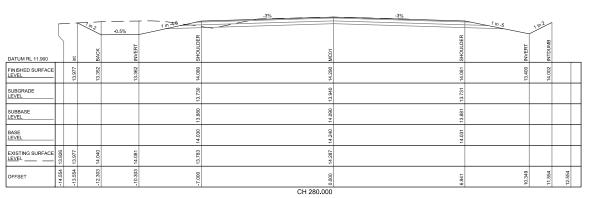
DJECT	ASPHALT & CONCRETE BATCHING PLANT	
	WARNER ROAD - GORDONVALE	

_	WARNER ROAD - ANNOTATED CROSS SECTION: SHEET 1 OF 2



						-3%	-3%	_		
			1/1/2	-0.5%	1 in -4.6			1 in -5	1m2	
		INTDUMB	Α.	FRT	ULDER	_	NULDER	ERT	INTDUMB	
DATUM RL 11.700		Ĭ	BACK	INVERT	948	MC01	SHS	INVERT	<u> </u>	
FINISHED SURFACE LEVEL		13.842	13.142	13.152	14.130	14.250	14.105	13.176	13.779	
SUBGRADE LEVEL					13.765	13.920	13.775			
SUBBASE LEVEL					13.915	14.070	13.925			
BASE LEVEL					14.065	14.220	14.075			
EXISTING SURFACE						14.230				
OFFSET	-12.901	11 901	-10.501	-8.501	4.003	0.000	4.815	9.461	10.666	11.666
						CH 318.5	33			





						-3%		-3.59%	-3.15%					
DATUM RL 11.600		INTDUMB	BACK	%2.0-	1 in 4.6	DER	F	MC01	ç	1 in -6	INVERT	1 E 22 INTDUMB		
FINISHED SURFACE LEVEL		13.760	13.060	13.070	14:108			14.250 h		3	13,105	13.707		
SUBGRADE LEVEL								13.920						
SUBBASE LEVEL								14.070						
BASE LEVEL								14.220						
EXISTING SURFACE					14.110	14,126		14.226						
OFFSET	-13.204	12.204	10.804	-8.804	-4.031	3.500	2000	0.000	900	ede: o	9.070	10.275	11 275	1.27.0
								CH 329.763	•					

PLANS AND DOCUMENTS referred to in the SDA APPROVAL

SDA approval: AP2022/011

REV B

1000 0 1000 2000 3000 4000 5000 mm SCALE 1:100

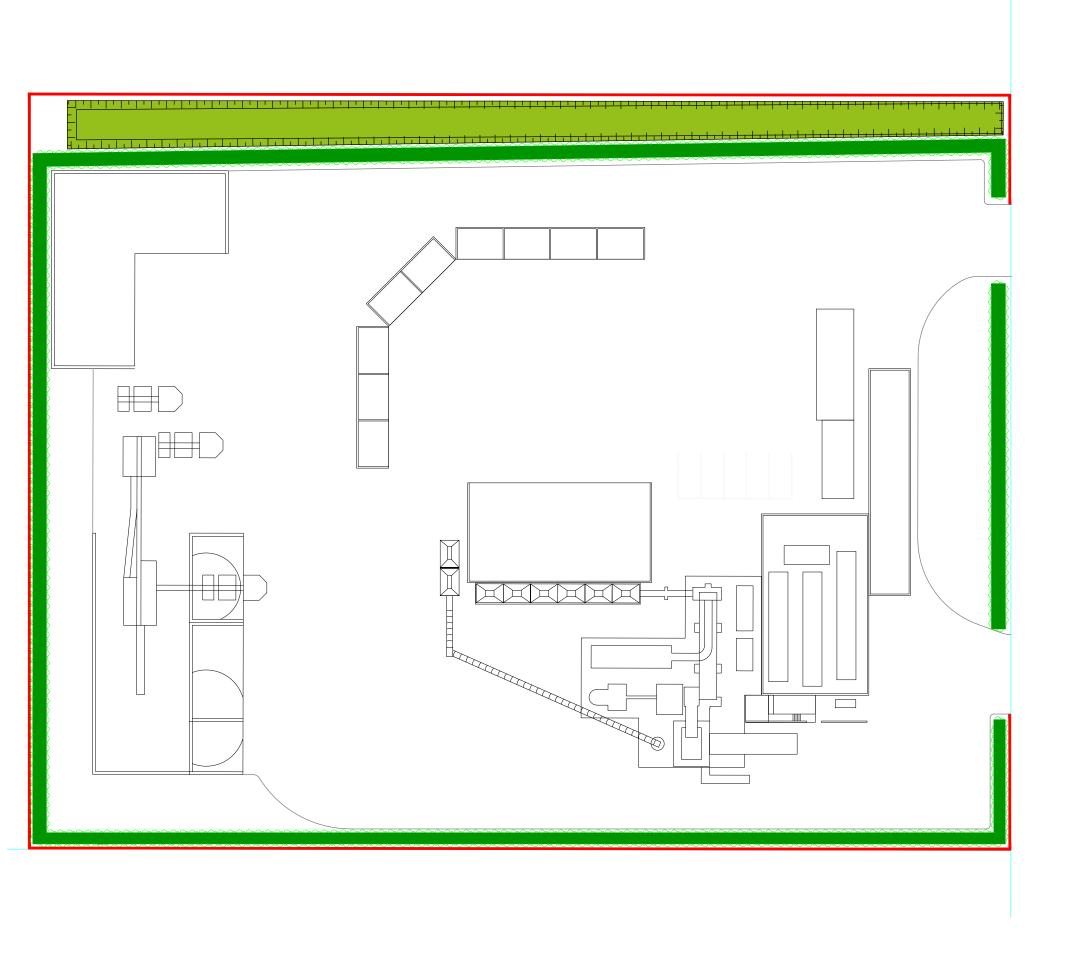




ASPHALT & CONCRETE BATCHING PLANT WARNER ROAD - GORDONVALE		WARNER ROAD - ANNOTATED CROSS SECTIONS SHEET 2 OF 2			
DRAWN DJM	DRAWING CHECK PDR	APPROVED			
DESIGNED DJM	DESIGN REVIEW PDR	DATE -	SCALE 1:100	DRAWING No	21145-C014

B 24.01.23 ROAD PAVEMENT UPDATED TO FULL PAVEMENT REPLACEMENT A 30.05.22 INITIAL ISSUE

REV DATE REVISION NOTES



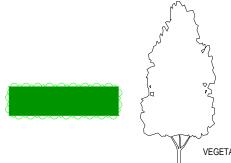




	TYPE:	NOTES
1.	Ficinia nodosa	Mix of adjacent planted at 8 per square meter
2.	Gahnia aspera	o per square meter
3.	Carex appressa	
4.	Imperata cylindrica	
5.	Lomandra hystrix	



	TYPE:	NOTES
1.	Lomandra hystrix	Mix of species planted at
2.	Phyllanthus multifolius	density 3/sq.m
3.	Gardenia psidioides "Glennie River"	



VEGETATIVE SCREENING/HEDGING PLANT TYPES

	TYPE:	NOTES
1.	Acmena smithhii	Mix of species, max 3 of
2.	Leea indica	same type in a row, planted at 800mm centres
3.	Phyllanthus lamprophyllus	
4.	Syzygium australe	

PLANS AND DOCUMENTS referred to in the SDA APPROVAL

SDA approval: AP2022/011

2.5 0 2.5 5 7.5 10 12.5 m SCALE 1:50

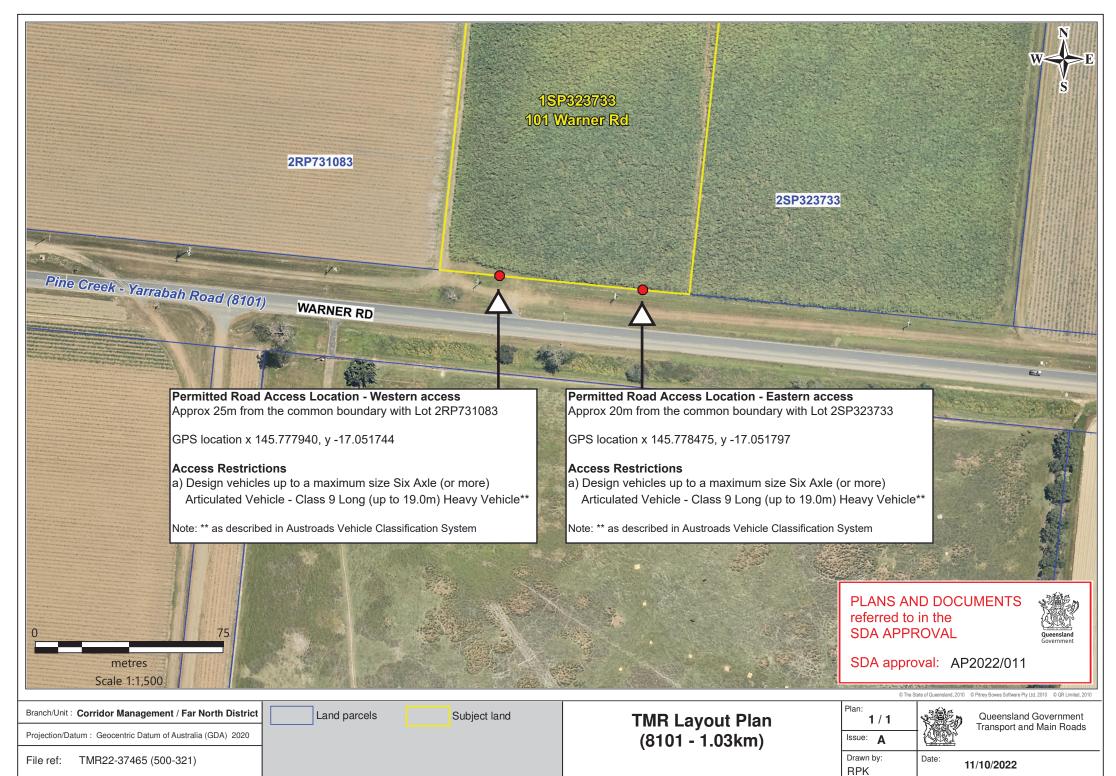




OJECT	ASPHALT & CONCRETE BATCHING PLANT
	WARNER ROAD - GORDONVALE

LANDSCAPING PLAN
AND PLANTING SCHEDULES

SCALE 1:500 (A3) DRAWING No 21145-SK005



per: While every care is taken to ensure the accuracy of this data, Paney Bowes Software Pty Ltd and/or the State of Queensland and/or QR Limited makes no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and sal inability final formation and the state government datasets.

Based on [Dataset - State Digital Road Network (SDRN)] provided with the permission of Piney Bowes Software Pty Ltd (Current as at 04 / 10), [Dataset - Rail\_Centre\_Line, May 2010] provided with a data being inaccurate or incomplete in any way and for any reason.



# SITE BASED MANAGEMENT PLAN

**Koppen Construction Pty Ltd** 



PLANS AND DOCUMENTS referred to in the SDA APPROVAL



SDA approval: AP2022/011

Prepared for Economic Development Queensland ABN: 76 590 288 697 **A**ECOM

**DRAFT** 

# Cairns South State Development Area

Base Line Hydraulic Modelling

28-Jun-2023

Cairns South State Development Area

PLANS AND DOCUMENTS referred to in the SDA APPROVAL



SDA approval: AP2022/011

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