# PROPOSED INDUSTRIAL BUILDING 14 AQUATIC DRIVE, FRENCHS FOREST, NSW, 2086 CIVIL DRAWINGS FOR DEVELOPMENT APPLICATION

### DRAWING LIST:

DRAWING NO. CO9431.01-DA10	DRAWING TITLE DRAWING LIST & GENERAL NOTES
C09431.01-DA20 C09431.01-DA21 C09431.01-DA25 C09431.01-DA26	EROSION AND SEDIMENT CONTROL PLAN - SHEET 1 EROSION AND SEDIMENT CONTROL PLAN - SHEET 2 EROSION AND SEDIMENT CONTROL DETAILS - SHEET 1 EROSION AND SEDIMENT CONTROL DETAILS - SHEET 2
C09431.01-DA30 C09431.01-DA31 C09431.01-DA35 C09431.01-DA36	BULK EARTHWORKS & CUT/FILL KEY PLAN- SHEET 1 BULK EARTHWORKS & CUT/FILL KEY PLAN- SHEET 2 BULK EARTHWORKS SECTION - SHEET 1 BULK EARTHWORKS SECTION - SHEET 2
CO9431.01-DA40 CO9431.01-DA41 CO9431.01-DA42 CO9431.01-DA43 CO9431.01-DA44 CO9431.01-DA45 CO9431.01-DA46 CO9431.01-DA48	STORMWATER DRAINAGE PLAN - KEY PLAN STORMWATER DRAINAGE PLAN - GROUND FLOOR-SHEET 1 STORMWATER DRAINAGE PLAN - GROUND FLOOR-SHEET 2 STORMWATER DRAINAGE PLAN - LEVEL 1 STORMWATER DRAINAGE PLAN - LEVEL 2 STORMWATER DRAINAGE DETAILS - SHEET 1 STORMWATER DRAINAGE DETAILS - SHEET 2 MUSIC CATCHMENT PLAN
C09431.01-DA50 C09431.01-DA51 C09431.01-DA52 C09431.01-DA53 C09431.01-DA54 C09431.01-DA55	FINISHED LEVELS PLAN - KEY PLAN FINISHED LEVELS PLAN - GROUND FLOOR- SHEET 1 FINISHED LEVELS PLAN - GROUND FLOOR- SHEET 2 FINISHED LEVELS PLAN - LEVEL 1 FINISHED LEVELS PLAN - LEVEL 2 TYPICAL SECTIONS

#### **GENERAL NOTES:**

- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- 2. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT STANDARDS AUSTRALIA CODES AND WITH THE BY-LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.
- 3. ALL DIMENSIONS SHOWN SHALL BE VERIFIED BY THE BUILDER ON SITE. ENGINEER'S DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS. ENGINEER'S DRAWINGS ISSUED IN ANY ELECTRONIC FORMAT MUST NOT BE USED FOR DIMENSIONAL
- REFER TO THE ARCHITECT'S DRAWINGS FOR ALL DIMENSIONAL SETOUT INFORMATION 4. DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED. TEMPORARY BRACING SHALL BE PROVIDED BY THE BUILDER TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
- UNLESS NOTED OTHERWISE ALL LEVELS ARE IN METRES AND ALL DIMENSIONS ARE IN MILLIMETRES ALL WORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH ACCEPTABLE SAFETY STANDARDS & APPROPRIATE SAFETY SIGNS SHALL BE INSTALLED AT ALL TIMES DURING THE PROGRESS OF THE

#### **EXISTING SERVICES NOTES:**

- DURING THE EXECUTION OF WORKS. THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF EXISTING SERVICES. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED TO THE EXISTING SERVICES TO THE SATISFACTION OF THE SUPERINTENDENT AND THE RELEVANT SERVICE AUTHORITY, AT NO COST TO THE PRINCIPAL.
- WHERE IT IS NECESSARY TO REMOVE, DIVERT OR CUT INTO ANY EXISTING SERVICE, THE CONTRACTOR SHALL GIVE AT LEAST THREE (3) DAYS NOTICE OF ITS REQUIREMENTS TO THE SUPERINTENDENT, WHO WILL ADVISE WHAT ARRANGEMENTS SHOULD BE MADE FOR THE ALTERATION OF SUCH EXISTING WORKS.
- EXISTING SERVICES HAVE BEEN PLOTTED FROM SUPPLIED DATA. THE ACCURACY IS NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO COMMENCING WORK. ALL CLEARANCES AND APPROVALS SHALL ALSO BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY PRIOR TO THE COMMENCEMENT OF WORK.
- ALL NEW AND EXHUMED SERVICES THAT CROSS EXISTING AND FUTURE ROADS/PAVEMENTS WITHIN THE SITE SHALL BE BACKFILLED WITH DGB20 MATERIAL TO SUBGRADE LEVEL AND COMPACTED TO 98% STANDARD DENSITY RATIO. SUBJECT TO PRIOR APPROVAL FROM RELEVANT AUTHORITY.
- 5. ON COMPLETION OF SERVICES INSTALLATION. ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AREAS, GRASSED AREAS AND ROAD PAVEMENTS.
- CARE TO BE TAKEN WHEN EXCAVATING NEAR UTILITY SERVICES. NO MECHANICAL EXCAVATION TO BE UNDERTAKEN OVER SERVICES. LIAISE WITH RELEVANT AUTHORITY.
- 7. THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION AND REMOVAL IF REQUIRED OF ALL EXISTING SERVICES IN AREAS AFFECTED BY THE WORKS WITHIN THE CONTRACT AREA AS SHOWN ON THE DRAWINGS UNLESS DIRECTED OTHERWISE BY THE SUPERINTENDENT. ALL TO REGULATORY AUTHORITY STANDARDS AND APPROVAL.
- THE CONTRACTOR IS TO MAINTAIN EXISTING STORMWATER DRAINAGE FLOWS THROUGH THE ROADS AT ALL TIMES. MAKE DUE ALLOWANCE FOR ALL SUCH FLOWS AT ALL TIMES.
- PRIOR TO COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL OBTAIN THE SUPERINTENDENT'S APPROVAL OF THE PROGRAM FOR THE RELOCATION/CONSTRUCTION OF TEMPORARY SERVICES.
- 10. CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES AS REQUIRED TO MAINTAIN EXISTING SUPPLY TO BUILDINGS REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF THE SUPERINTENDENT. ONCE DIVERSION IS COMPLETE AND COMMISSIONED THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE
- SATISFACTION OF THE SUPERINTENDENT. 11. INTERRUPTION TO SUPPLY OF EXISTING SERVICES SHALL BE DONE SO AS NOT TO CAUSE ANY INCONVENIENCE OR DAMAGE TO THE ADJACENT RESIDENCES. CONTRACTOR TO GAIN APPROVAL OF THE SUPERINTENDENT FOR TIME OF INTERRUPTION.
- 12. THE CONTRACTOR SHALL UNDERTAKE A DIAL BEFORE YOU DIG (DBYD 1100) SERVICES SEARCH BEFORE THE COMMENCEMENT OF ANY WORKS.





#### **ELECTRONIC INFORMATION NOTES:**

- THE ISSUED DRAWINGS IN HARD COPY OR PDF FORMAT TAKE PRECEDENCE OVER ANY
- ELECTRONICALLY ISSUED INFORMATION, LAYOUTS OR DESIGN MODELS 2. THE CONTRACTOR'S DIRECT AMENDMENT OR MANIPULATION OF THE DATA OR INFORMATION THAT MIGHT BE CONTAINED WITHIN AN ENGINEER-SUPPLIED DIGITAL TERRAIN MODEL AND ITS SUBSEQUENT USE TO UNDERTAKE THE WORKS WILL BE SOLELY
- AT THE DISCRETION OF AND THE RISK OF THE CONTRACTOR. THE CONTRACTOR IS REQUIRED TO HIGHLIGHT ANY DISCREPANCIES BETWEEN THE DIGITAL TERRAIN MODEL AND INFORMATION PROVIDED IN THE CONTRACT AND/OR DRAWINGS AND IS REQUIRED TO SEEK CLARIFICATION FROM THE SUPERINTENDENT.
- THE ENGINEER WILL NOT BE LIABLE OR RESPONSIBLE FOR THE POSSIBLE ON-GOING NEED TO UPDATE THE DIGITAL TERRAIN MODEL, SHOULD THERE BE ANY AMENDMENTS OR CHANGES TO THE DRAWINGS OR CONTRACT INITIATED BY THE CONTRACTOR.

## FOR DEVELOPMENT APPLICATION

ARCHITECT SSUED FOR DEVELOPMENT APPLICATION 15.04.25 SSUED FOR INFORMATION 28.02.25 A DATE ISSUE



NSW, 2086

PROPOSED INDUSTRIAL DEVELOPMENT 14 AQUATIC DRIVE, FRENCHS FOREST.



Costin Roe Consulting Pty Ltd. ABN 50 003 696 446

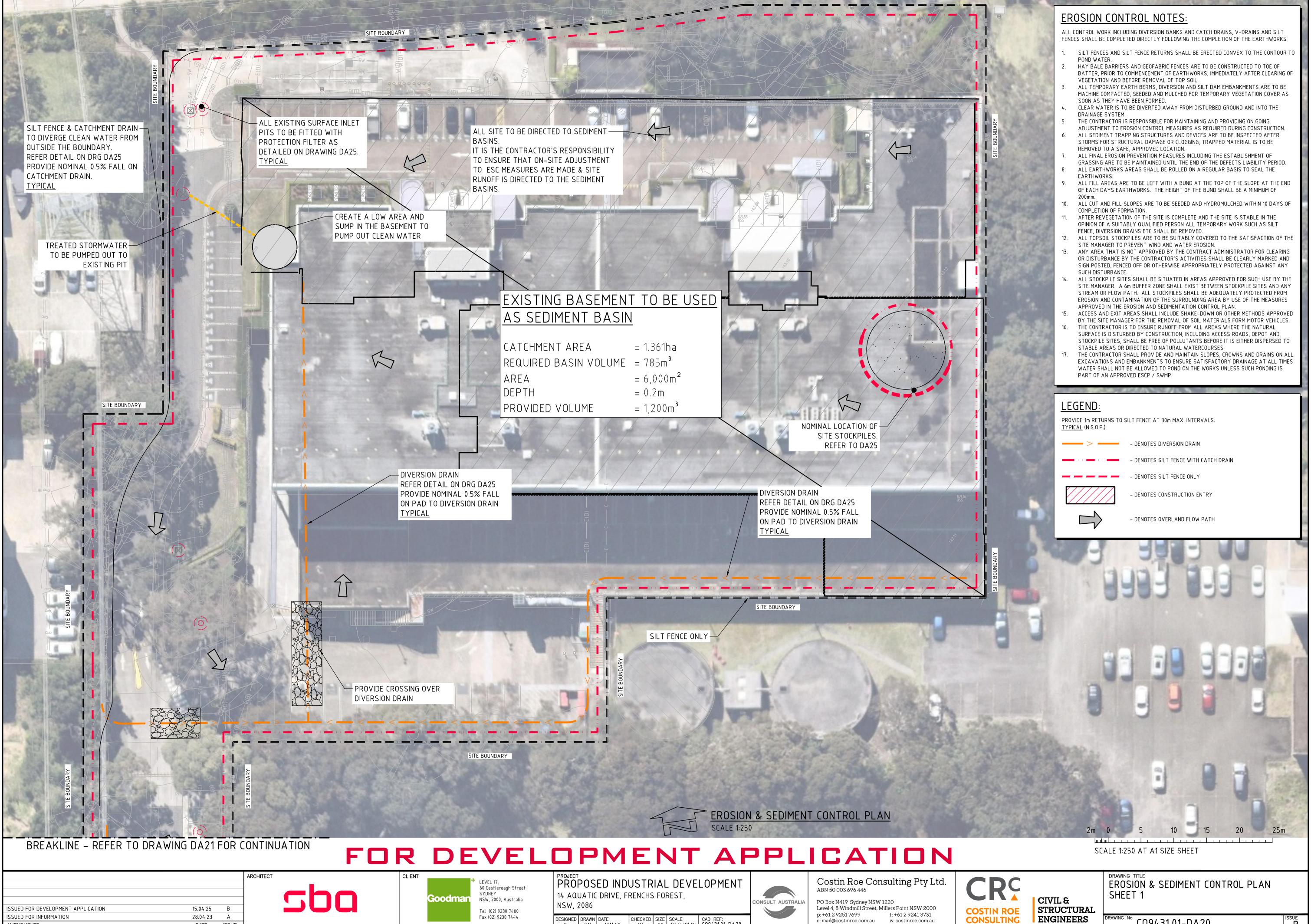
PO Box N419 Sydney NSW 1220 Level 4, 8 Windmill Street, Millers Point NSW 2000 p: +61 2 9251 7699 f: +61 2 9241 3731



CIVIL & STRUCTURAL ENGINEERS

DRAWINGS LIST & GENERAL NOTES

CO9431.01-DA 10



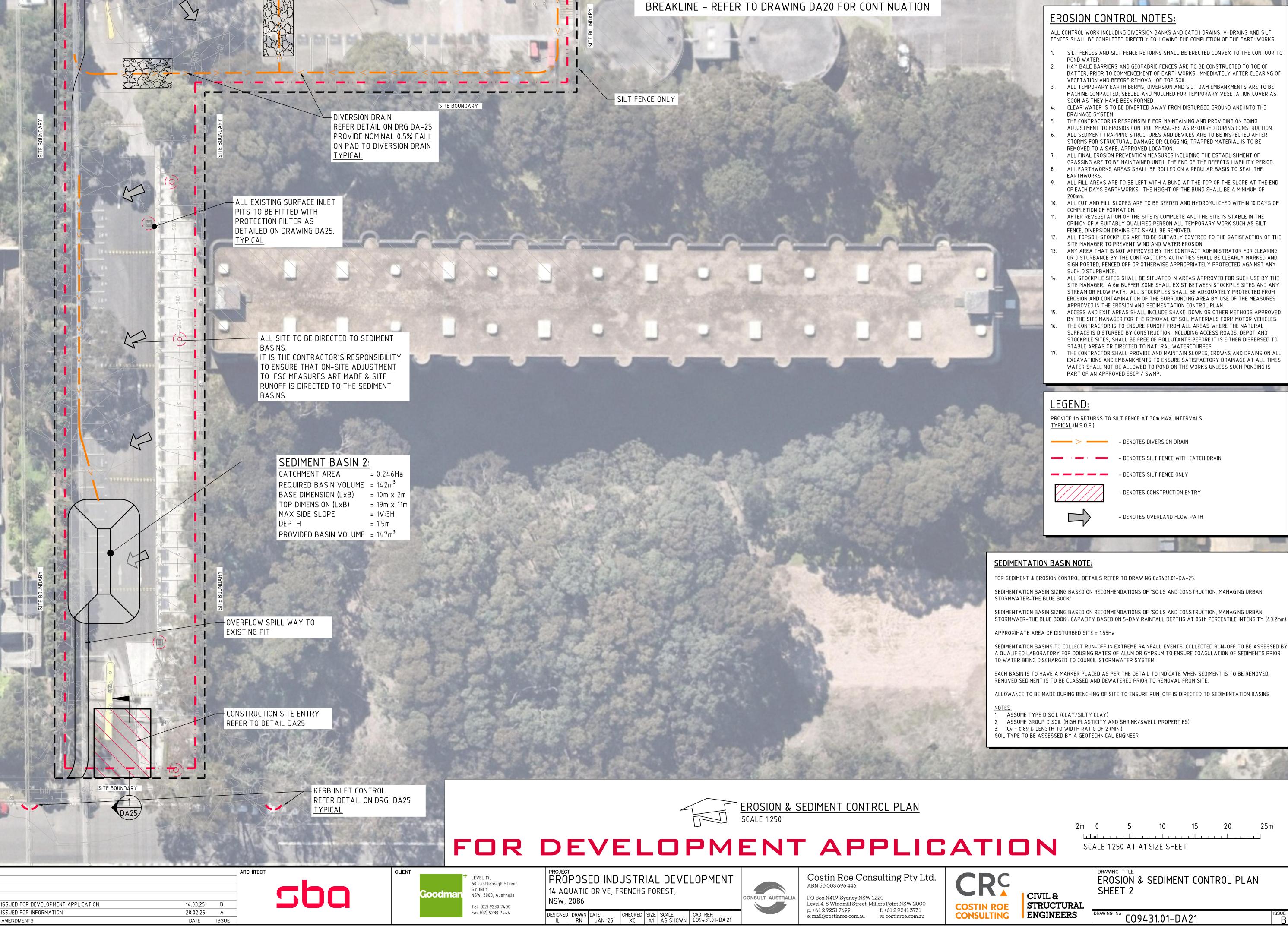
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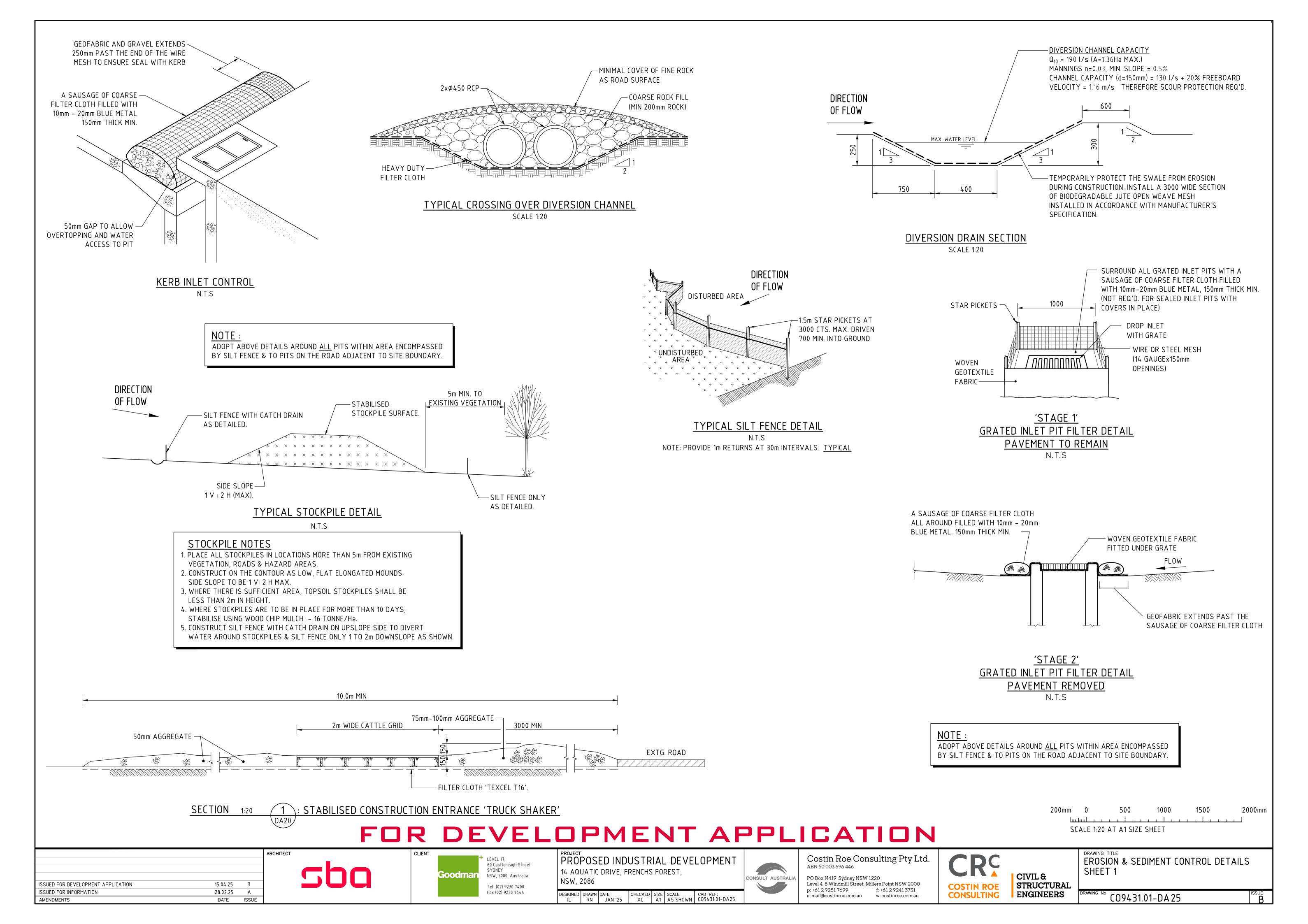
AMENDMENTS

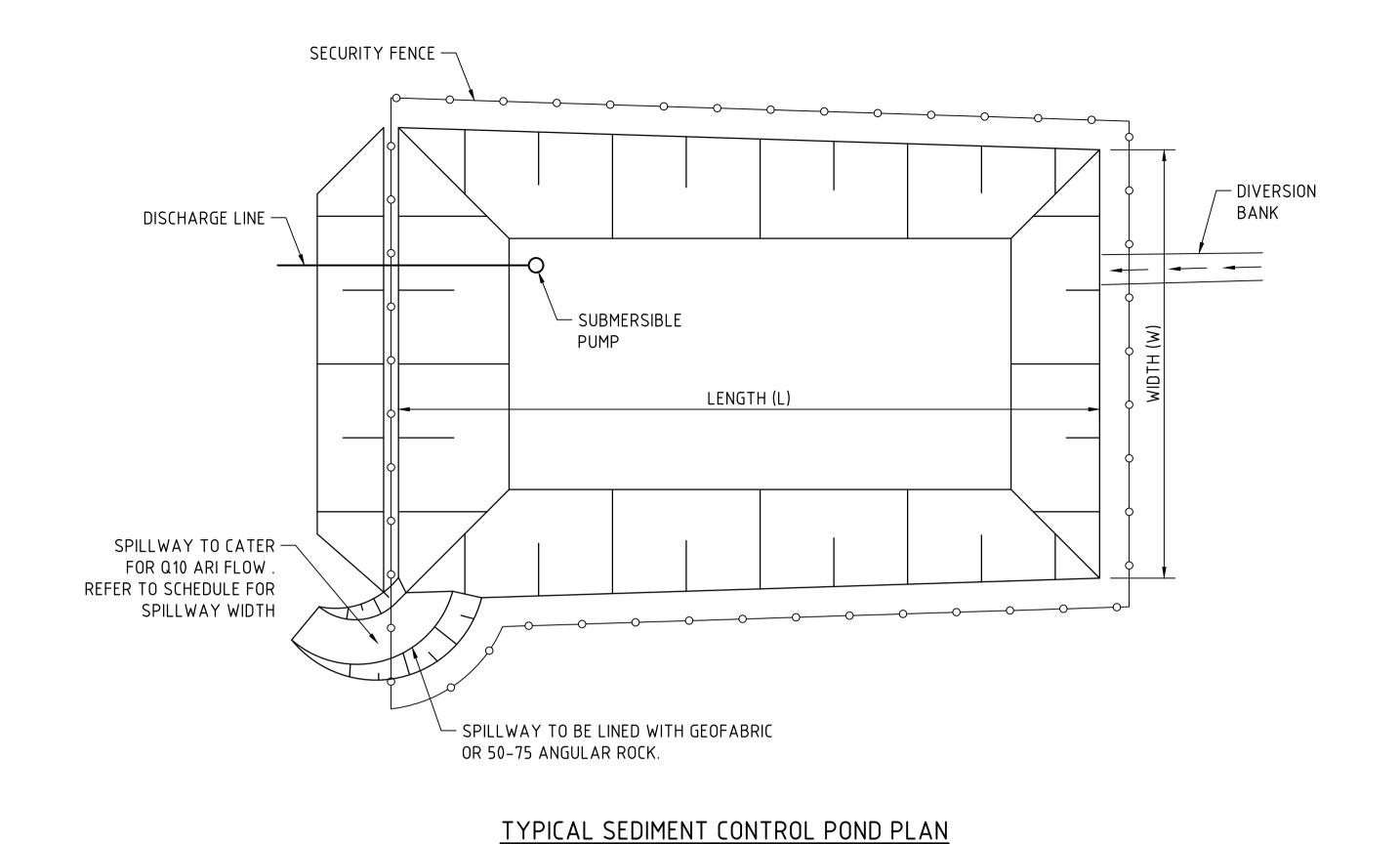
DATE ISSUE

e: mail@costinroe.com.au

CO9431.01-DA20

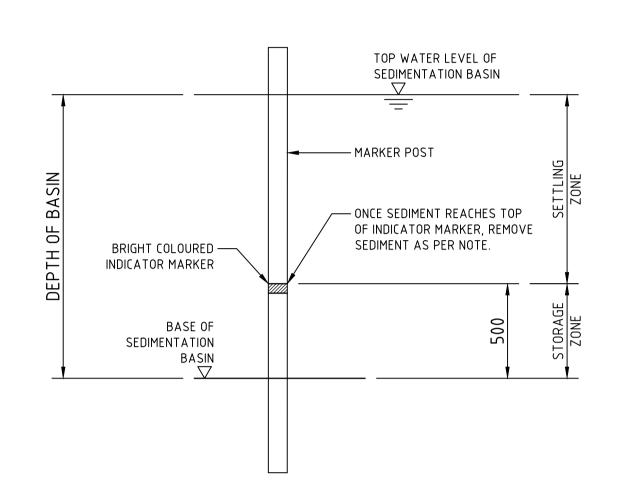




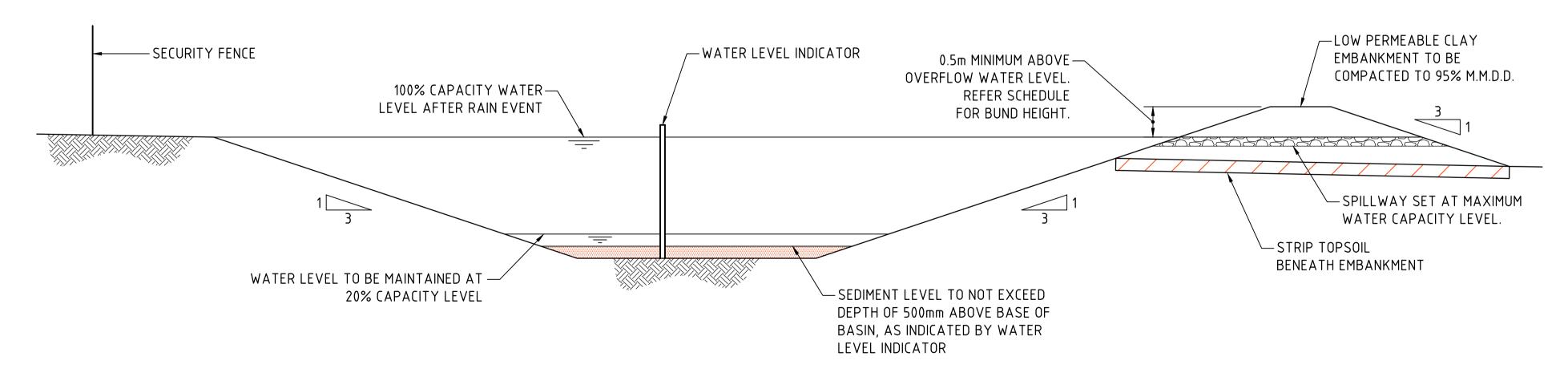


SCALE 1:250

SPILLWAY SCHEDULE					
CATCHMENT (Ha)	FLOW (m³/s)	WIDTH (m)	FLOW DEPTH (m)	ROCK SIZE (mm)	BUND HEIGHT ABOVE SPILLWAY (m)
1	0.3	2	0.20	200	0.70
2	0.6	4	0.20	200	0.70
5	1.4	5	0.30	200	0.80
10	2.8	8	0.35	200	0.85
20	2.8	8	0.35	200	0.85



SEDIMENT STORAGE MARKER SCALE 1:20



TYPICAL SEDIMENT CONTROL BASIN SECTION SCALE 1:50

# FOR DEVELOPMENT APPLICATION

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PROPOSED INDUSTRIAL DEVELOPMENT 14 AQUATIC DRIVE, FRENCHS FOREST, NSW, 2086 DESIGNED DRAWN DATE CHECKED SIZE SCALE CAD REF:
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Costin Roe Consulting Pty Ltd.
ABN 50 003 696 446 PO Box N419 Sydney NSW 1220

p: +61 2 9251 7699

Level 4, 8 Windmill Street, Millers Point NSW 2000 f: +61 2 9241 3731 e: mail@costinroe.com.au w: costinroe.com.au

CIVIL & STRUCTURAL **ENGINEERS** 

EROSION & SEDIMENT CONTROL DETAILS SHEET 2

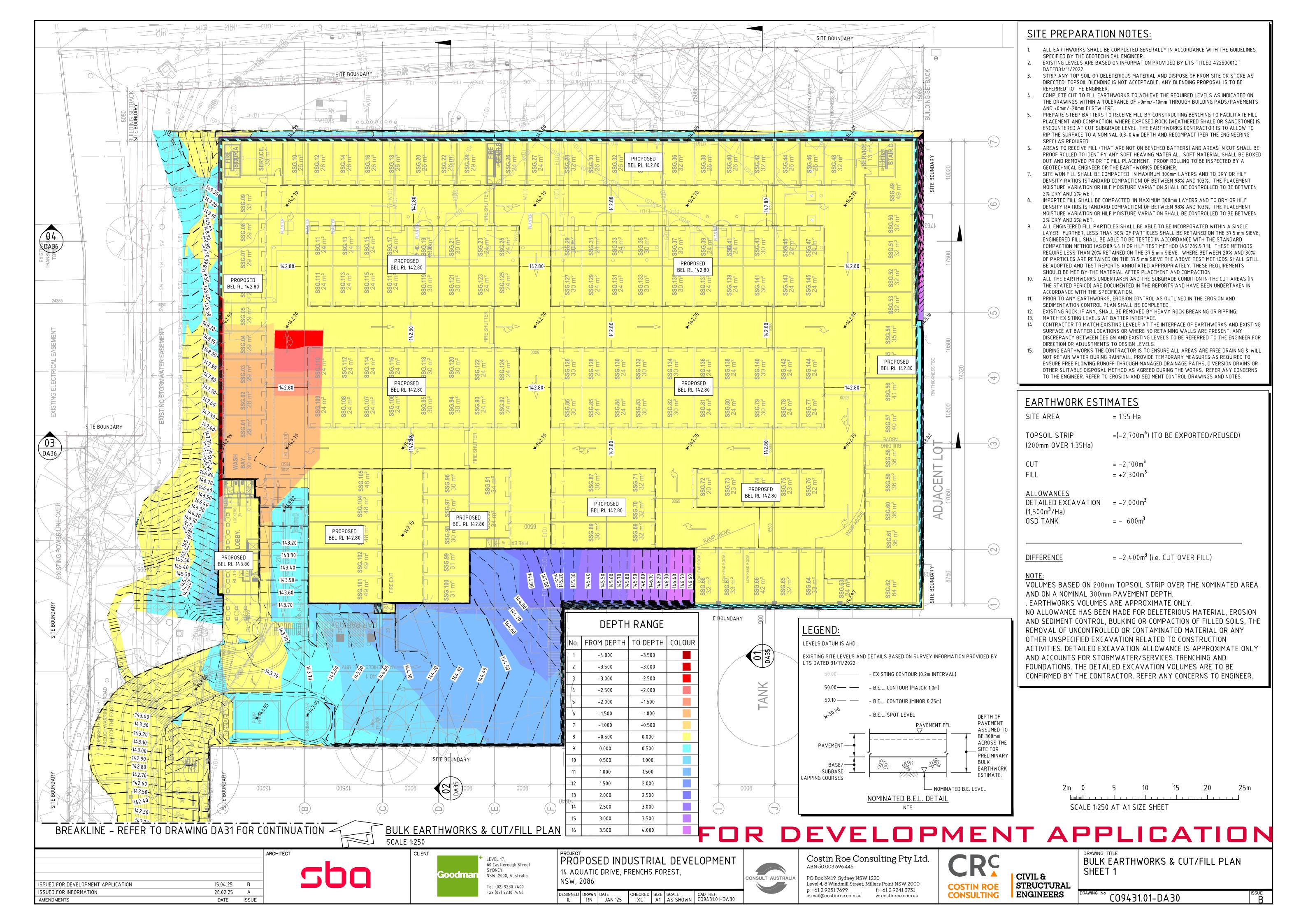
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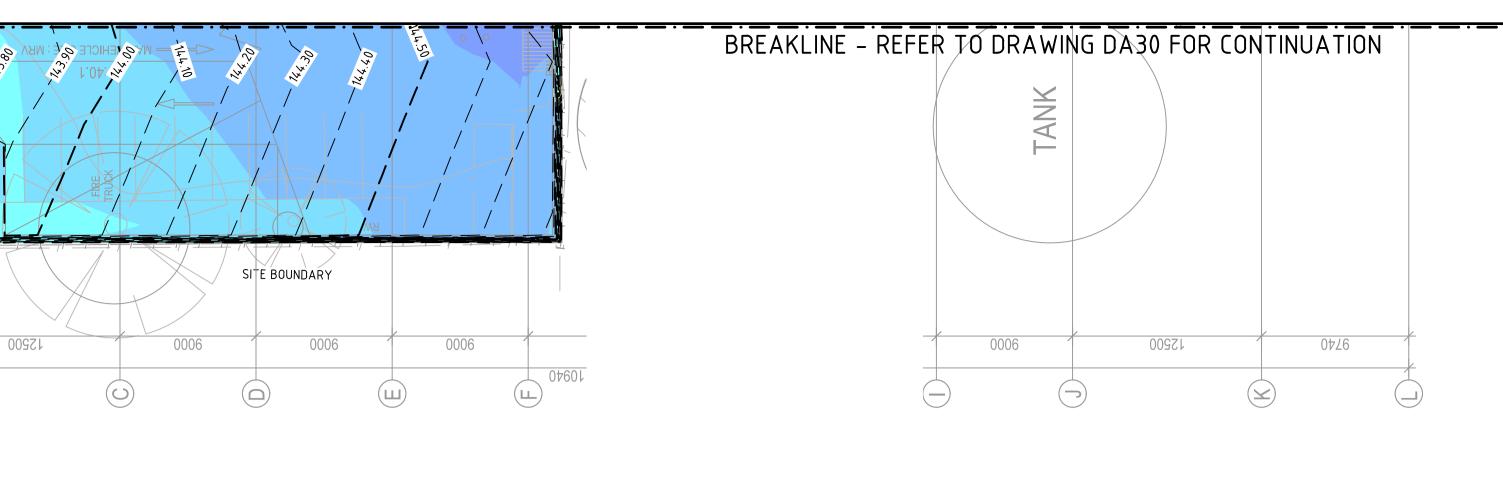
SCALE 1:50 AT A1 SIZE SHEET

SCALE 1:20 AT A1 SIZE SHEET

DRAWING No CO9431.01-DA26

2000mm



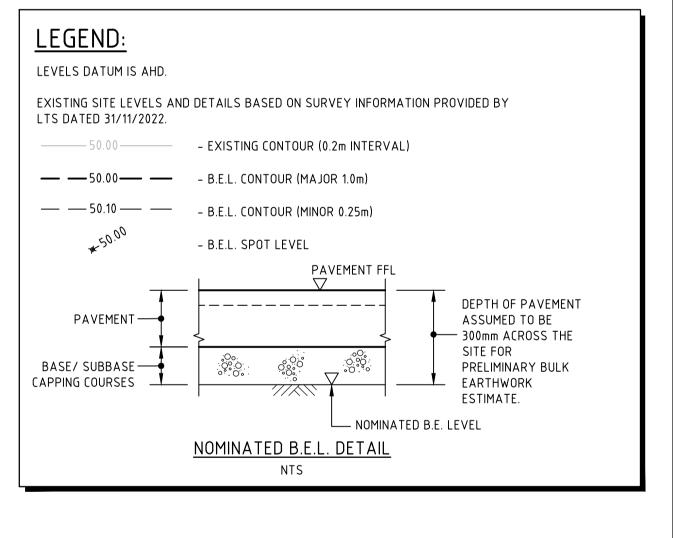


DEPTH RANGE					
No.	FROM DEPTH	TO DEPTH	COLOUR		
1	-4.000	-3.500			
2	-3.500	-3.000			
3	-3.000	-2.500			
4	-2.500	-2.000			
5	-2.000	-1.500			
6	-1.500	-1.000			
7	-1.000	-0.500			
8	-0.500	0.000			
9	0.000	0.500			
10	0.500	1.000			
11	1.000	1.500			
12	1.500	2.000			
13	2.000	2.500			
14	2.500	3.000			
15	3.000	3.500			
16	3.500	4.000			

#### **SITE PREPARATION NOTES:**

AND +0mm/-20mm ELSEWHERE.

- 1. ALL EARTHWORKS SHALL BE COMPLETED GENERALLY IN ACCORDANCE WITH THE GUIDELINES SPECIFIED BY THE GEOTECHNICAL ENGINEER.
- 2. EXISTING LEVELS ARE BASED ON INFORMATION PROVIDED BY LTS TITLED 42250001DT
- STRIP ANY TOP SOIL OR DELETERIOUS MATERIAL AND DISPOSE OF FROM SITE OR STORE AS DIRECTED. TOPSOIL BLENDING IS NOT ACCEPTABLE. ANY BLENDING PROPOSAL IS TO BE
- REFERRED TO THE ENGINEER. COMPLETE CUT TO FILL EARTHWORKS TO ACHIEVE THE REQUIRED LEVELS AS INDICATED ON THE DRAWINGS WITHIN A TOLERANCE OF +0mm/-10mm THROUGH BUILDING PADS/PAVEMENTS
- PREPARE STEEP BATTERS TO RECEIVE FILL BY CONSTRUCTING BENCHING TO FACILITATE FILL PLACEMENT AND COMPACTION. WHERE EXPOSED ROCK (WEATHERED SHALE OR SANDSTONE) IS ENCOUNTERED AT CUT SUBGRADE LEVEL. THE EARTHWORKS CONTRACTOR IS TO ALLOW TO RIP THE SURFACE TO A NOMINAL 0.3-0.4m DEPTH AND RECOMPACT (PER THE ENGINEERING SPEC) AS REQUIRED.
- AREAS TO RECEIVE FILL (THAT ARE NOT ON BENCHED BATTERS) AND AREAS IN CUT SHALL BE PROOF ROLLED TO IDENTIFY ANY SOFT HEAVING MATERIAL. SOFT MATERIAL SHALL BE BOXED OUT AND REMOVED PRIOR TO FILL PLACEMENT. PROOF ROLLING TO BE INSPECTED BY A GEOTECHNICAL ENGINEER OR THE EARTHWORKS DESIGNER.
- 7. SITE WON FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
- 8. IMPORTED FILL SHALL BE COMPACTED IN MAXIMUM 300mm LAYERS AND TO DRY OR HILF DENSITY RATIOS (STANDARD COMPACTION) OF BETWEEN 98% AND 103%. THE PLACEMENT MOISTURE VARIATION OR HILF MOISTURE VARIATION SHALL BE CONTROLLED TO BE BETWEEN 2% DRY AND 2% WET.
- 9. ALL ENGINEERED FILL PARTICLES SHALL BE ABLE TO BE INCORPORATED WITHIN A SINGLE LAYER. FURTHER, LESS THAN 30% OF PARTICLES SHALL BE RETAINED ON THE 37.5 mm SIEVE. ENGINEERED FILL SHALL BE ABLE TO BE TESTED IN ACCORDANCE WITH THE STANDARD COMPACTION METHOD (AS1289.5.4.1) OR HILF TEST METHOD (AS1289.5.7.1). THESE METHODS REQUIRE LESS THAN 20% RETAINED ON THE 37.5 mm SIEVE. WHERE BETWEEN 20% AND 30% OF PARTICLES ARE RETAINED ON THE 37.5 mm SIEVE THE ABOVE TEST METHODS SHALL STILL BE ADOPTED AND TEST REPORTS ANNOTATED APPROPRIATELY. THESE REQUIREMENTS SHOULD BE MET BY THE MATERIAL AFTER PLACEMENT AND COMPACTION
- 10. ALL THE EARTHWORKS UNDERTAKEN AND THE SUBGRADE CONDITION IN THE CUT AREAS [IN THE STATED PERIOD] ARE DOCUMENTED IN THE REPORTS AND HAVE BEEN UNDERTAKEN IN ACCORDANCE WITH THE SPECIFICATION.
- 11. PRIOR TO ANY EARTHWORKS, EROSION CONTROL AS OUTLINED IN THE EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE COMPLETED.
- 12. EXISTING ROCK, IF ANY, SHALL BE REMOVED BY HEAVY ROCK BREAKING OR RIPPING.
- 13. MATCH EXISTING LEVELS AT BATTER INTERFACE.
- 14. CONTRACTOR TO MATCH EXISTING LEVELS AT THE INTERFACE OF EARTHWORKS AND EXISTING SURFACE AT BATTER LOCATIONS OR WHERE NO RETAINING WALLS ARE PRESENT. ANY DISCREPANCY BETWEEN DESIGN AND EXISTING LEVELS TO BE REFERRED TO THE ENGINEER FOR DIRECTION OR ADJUSTMENTS TO DESIGN LEVELS.
- DURING EARTHWORKS THE CONTRACTOR IS TO ENSURE ALL AREAS ARE FREE DRAINING & WILL NOT RETAIN WATER DURING RAINFALL. PROVIDE TEMPORARY MEASURES AS REQUIRED TO ENSURE FREE FLOWING RUNOFF THROUGH MANAGED DRAINAGE PATHS, DIVERSION DRAINS OR OTHER SUITABLE DISPOSAL METHOD AS AGREED DURING THE WORKS. REFER ANY CONCERNS TO THE ENGINEER. REFER TO EROSION AND SEDIMENT CONTROL DRAWINGS AND NOTES.





# FOR DEVELOPMENT APPLICATION

ARCHITECT ISSUED FOR DEVELOPMENT APPLICATION 15.04.25 ISSUED FOR INFORMATION 28.02.25 A DATE ISSUE AMENDMENTS

SITE BOUNDARY

AQUATIC DRIVE

- 138.80





PROPOSED INDUSTRIAL DEVELOPMENT 14 AQUATIC DRIVE, FRENCHS FOREST, NSW, 2086

DESIGNED DRAWN DATE CHECKED SIZE SCALE CAD REF:
L RN JAN '25 XC A1 AS SHOWN C09431.01-DA31



Costin Roe Consulting Pty Ltd. ABN 50 003 696 446

PO Box N419 Sydney NSW 1220 Level 4, 8 Windmill Street, Millers Point NSW 2000 f: +61 2 9241 3731 p: +61 2 9251 7699 e: mail@costinroe.com.au w: costinroe.com.au

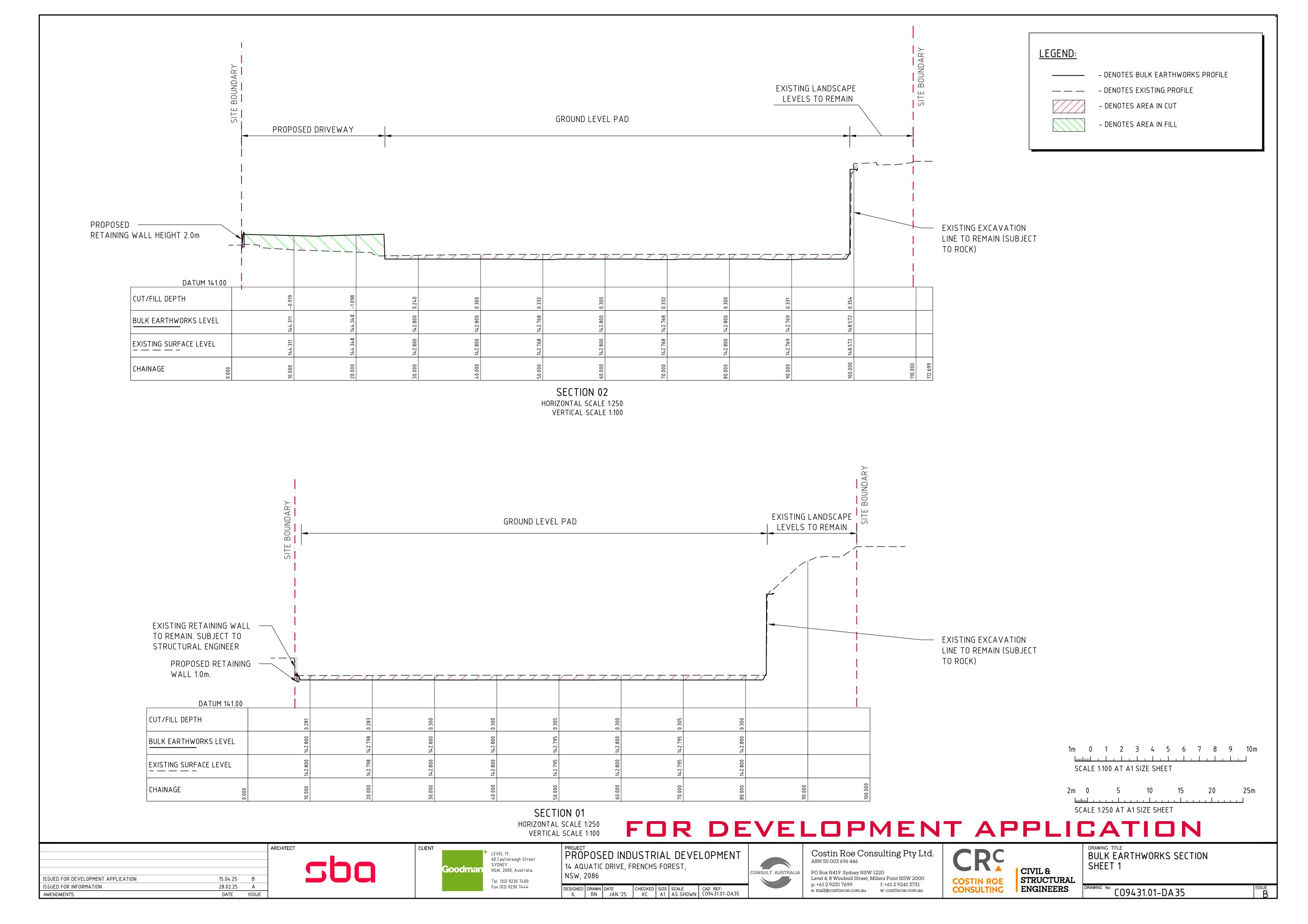


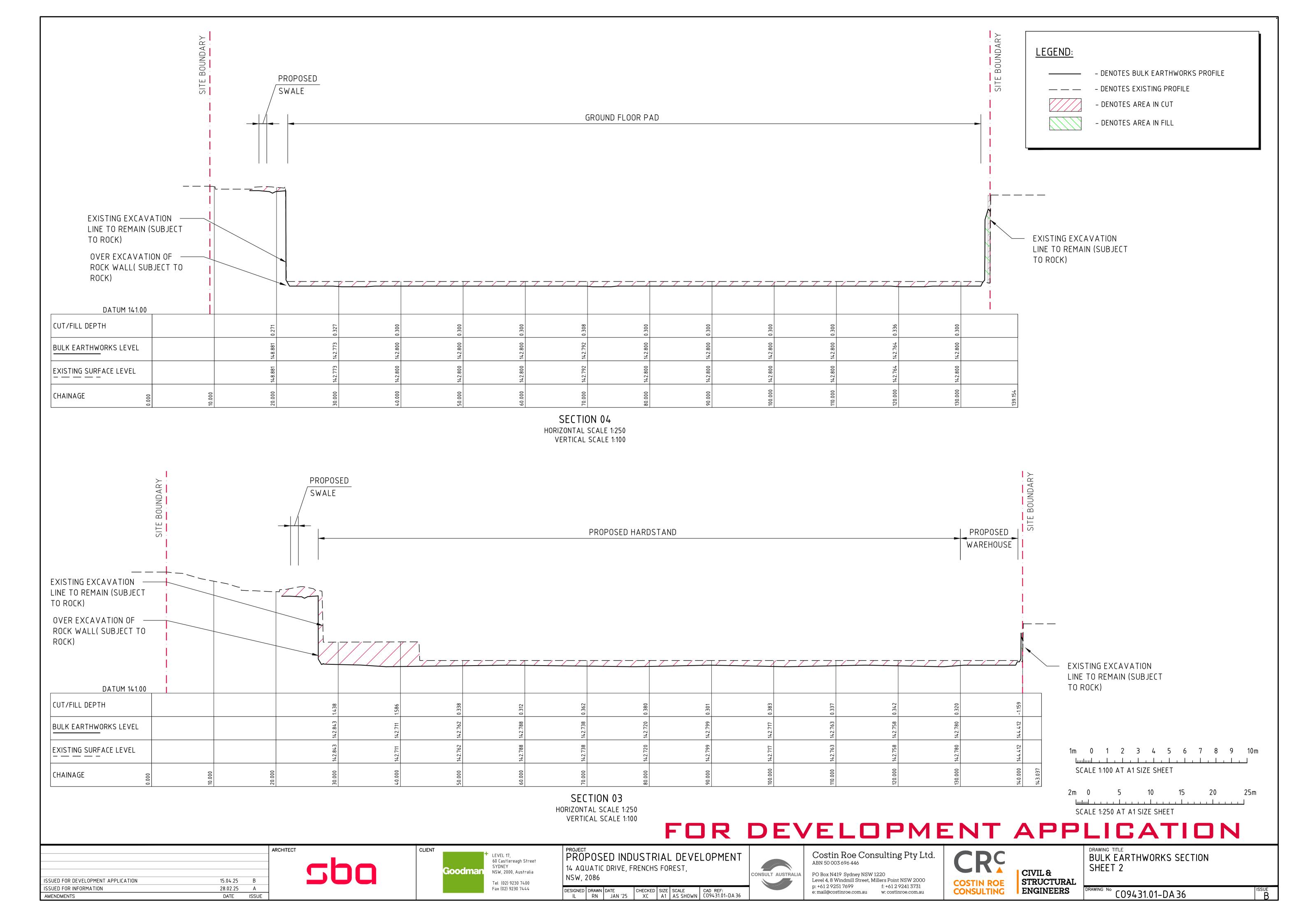
CIVIL & STRUCTURAL **ENGINEERS** 

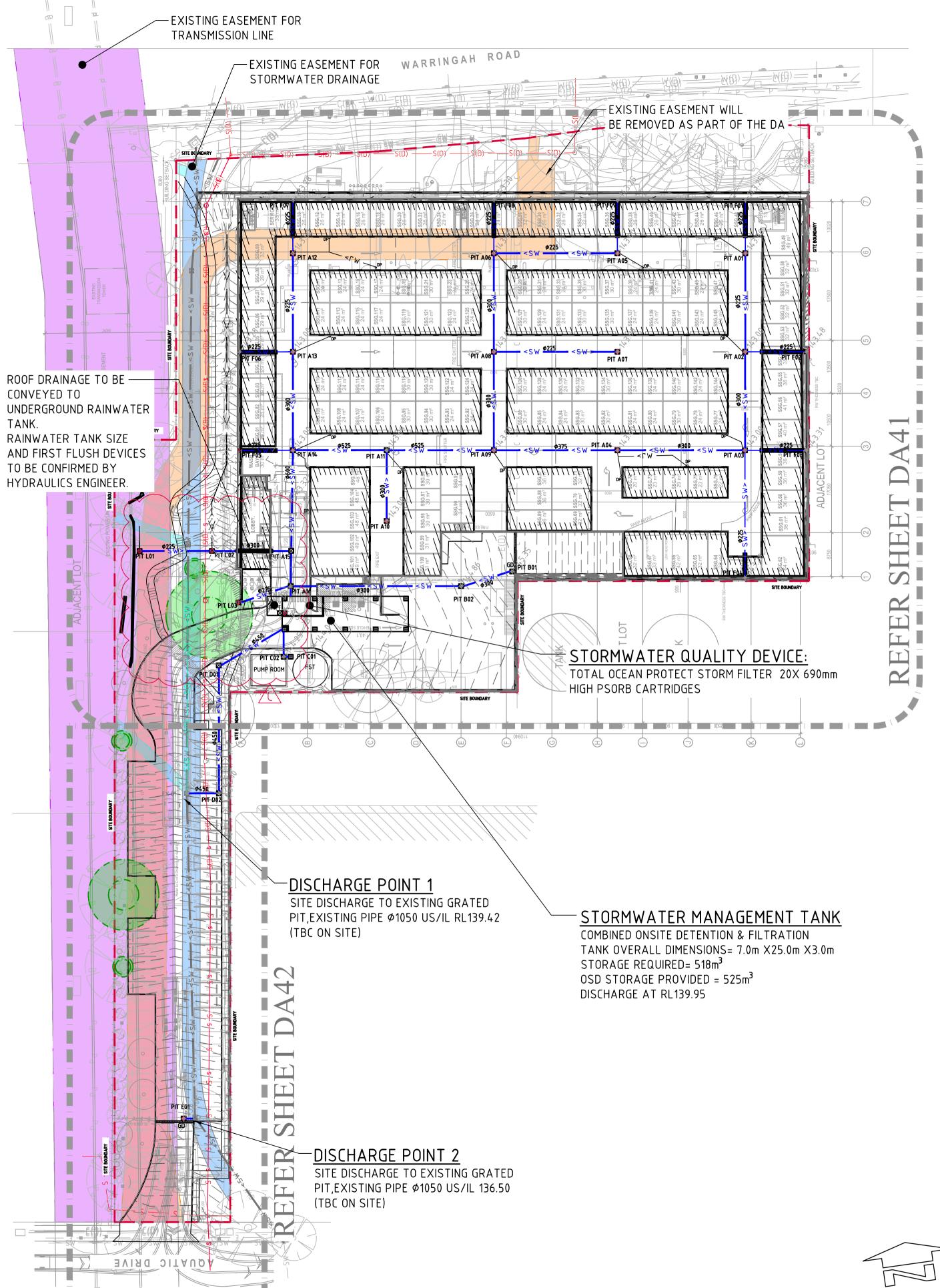
DRAWING TITLE BULK EARTHWORKS & CUT/FILL PLAN SHEET 2

CO9431.01-DA 31

SCALE 1:250 AT A1 SIZE SHEET







		PIT SCHE	DULE - NE	TWORK A		
PIT No.	GRATE RL	DEPTH	TYPE	GRATE SIZE	CHAMBER SIZE	COMMEN
PIT A01	143.00	870	SGGP	900X900	900X900	$\Diamond$
PIT A02	143.00	980	SGGP	900X900	900X900	$\Diamond$
PIT A03	143.00	1090	SGGP	900X900	900X900	$\Diamond$
PIT A04	143.00	1230	SGGP	900X900	900X900	$\Diamond$
PIT A05	143.00	870	SGGP	900X900	900X900	$\Diamond$
PIT A06	143.00	870	SGGP	900X90	900X90	$\Diamond$
PIT A07	143.00	900	SGGP	900X900	900X900	$\Diamond$
PIT A08	143.00	980	SGGP	900X900	900X900	$\Diamond$
PIT A09	143.00	1370	SGGP	900X900	1200×900	$\Diamond$
PIT A10	143.00	900	SGGP	900X900	900×900	$\Diamond$
PIT A11	143.09	1580	SJP	900X900	1200×900	
PIT A12	143.00	870	SGGP	900X900	900X900	$\Diamond$
PIT A13	143.00	980	SGGP	900X900	900X900	$\bigcirc$
PIT A14	143.00	1600	SGGP	900X900	1200×900	$\bigcirc$
PIT A15	143.00	1670	SJP	900X900	1200×900	
PIT A16	143.86	2630	SJP	900X900	1200X900	
		PIT SCHE	DULE - NE	TWORK B		
PIT No.	GRATE RL	DEPTH	TYPE	GRATE SIZE	CHAMBER SIZE	COMMEN
PIT B01	145.36	900	SGGP/GD	900X900	900X900	$\Diamond$
PIT B02	144.86	900	SJP	900X900	900X900	
		PIT SCHE	DULE - NE	TWORK C		
PIT No.	GRATE RL	DEPTH	TYPE	GRATE SIZE	CHAMBER SIZE	COMMEN
PIT C01	144.00	900	SGGP	900X900	900×900	
PIT C02	144.00	900	SGGP	900X900	900X900	
		PIT SCHE	DULE - NE	TWORK D		
PIT No.	GRATE RL	DEPTH	TYPE	GRATE SIZE	CHAMBER SIZE	COMMEN
PIT D01	143.95	4310	SJP	900×900	900×900	
PIT D02	142.20	2630	SJP	900X900	900X900	
	•	PIT SCHE	DULE - NE	TWORK D		
PIT No.	GRATE RL	DEPTH	TYPE	GRATE SIZE	CHAMBER SIZE	COMMEN
PIT E01	138.04	900	SGGP/GD	900X900	900X900	$\Diamond$
	130.01		DULE - NE	<b>I</b>	7007(700	
PIT No.	GRATE RL	DEPTH	TYPE	GRATE SIZE	CHAMBER SIZE	COMMEN
PIT F01	143.10	900	SGGP	900X900	900X900	COLLINE
PIT F02	143.10	900	SGGP	900X900	900X900	$\overline{}$
PIT F03	143.10	900	SGGP	900X900	900X900	$\overline{}$
PIT F04	143.10	900	SGGP	900X900	900X900	$\overline{\Diamond}$
PIT F05	143.10	900	SGGP	900X900	900X900	$\Diamond$
PIT F06	143.10	900	SGGP	900X900	900X900	$\overline{}$
PIT F07	143.10	900	SGGP	900X900	900X900	$\overline{}$
PIT F08	143.10	900	SGGP	900X900	900X900	$\overline{\wedge}$
PIT F09	143.10	900	SGGP	900X900	900X900	$\Diamond$
		PIT SCHE	DULE - NE	<b>L</b>	·	*
	GRATE RL	DEPTH	TYPE	GRATE SIZE	CHAMBER SIZE	COMMEN
PIT No.			· · · · <del>-</del>		+	
PIT No.	145.11	900	SGGP	900×900	900X900 L	< >
PIT No. PIT L01 PIT L02	145.11 144.93	900 930	SGGP SGGP	900X900 900X900	900X900 900X900	$\Diamond$

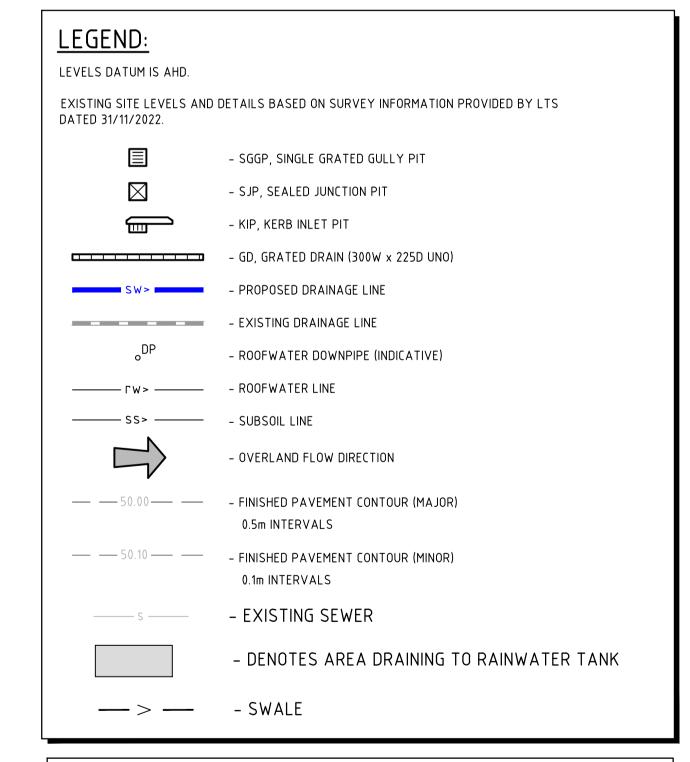
#### **STORMWATER DRAIN**AGE NOTES:

PROVIDED ON PLAN.

- 1. ALL STORMWATER WORKS TO BE COMPLETED IN ACCORDANCE WITH AUSTRALIAN STANDARD
- AS3500.3 PLUMBING AND DRAINAGE, PART 3: STORMWATER DRAINAGE. 2. THE MINOR (PIPED) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 20 YEAR ARI STORM EVENT AND
- THE MAJOR (OVERLAND) SYSTEM HAS BEEN DESIGNED FOR THE 1 IN 100 YEAR ARI STORM EVENT.
- ALL FINISHED PAVEMENT LEVELS SHALL BE AS INDICATED ON FINISHED LEVELS PLANS SSDA50. 4. PIT SIZES SHALL BE AS INDICATED IN THE SCHEDULE WHILE PIPE SIZES AND DETAILS ARE
- 5. EXISTING STORMWATER PIT LOCATIONS AND INVERT LEVELS TO BE CONFIRMED BY SURVEY PRIOR
- TO COMMENCING WORKS ON SITE. 6. ALL STORMWATER PIPES Φ375 OR GREATER SHALL BE CLASS 2 (WITH HS2 SUPPORT) REINFORCED
- CONCRETE WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE. ALL PIPES UP TO AND INCLUDING Ø300 TO BE uPVC GRADE SN8 UNO.
- PIPE CLASS NOMINATED ARE FOR IN-SERVICE LOADING CONDITIONS ONLY. CONTRACTOR IS TO
- MAKE ANY NECESSARY ADJUSTMENTS REQUIRED FOR CONSTRUCTION CONDITIONS. ALL CONCRETE PITS GREATER THAN 1000mm DEEP SHALL BE REINFORCED USING N12-200 EACH WAY CENTERED IN WALL AND BASE. LAP MINIMUM 300mm WHERE REQUIRED. ALL CONCRETE FOR
- PITS SHALL BE F'c=25 MPa. PRECAST PITS MAY BE USED WITH THE APPROVAL OF THE ENGINEER. 10. IN ADDITION TO ITEM 9 ABOVE, ALL CONCRETE PITS GREATER THAN 3000mm DEEP SHALL HAVE WALLS AND BASE THICKNESS INCREASED TO 200mm.
- PIPES SHALL BE LAID AS PER PIPE LAYING DETAILS. PARTICULAR CARE SHALL BE TAKEN TO ENSURE THAT THE PIPE IS FULLY AND EVENLY SUPPORTED. RAM AND PACK FILLING AROUND AND UNDER BACK OF PIPES AND PIPE FAUCETS, WITH NARROW EDGED RAMMERS OR OTHER
- SUITABLE TAMPING DETAILS. 12. CONCRETE PIPES UNDER, OR WITHIN THE ZONE OF INFLUENCE OF PAVED AREAS SHALL BE LAID USING HS2 TYPE SUPPORT, AS A MINIMUM, IN ACCORDANCE WITH AS 3725. AGGREGATE BACKFILL
- SHALL NOT BE USED FOR PIPE BEDDING AND OR HAUNCH/SIDE SUPPORT. 13. WHERE PIPE LINES ENTER PITS, PROVIDE 2m LENGTH OF STOCKING WRAPPED SLOTTED \$\phi\$100 uPVC TO EACH SIDE OF PIPE.
- 14. ALL SUBSOIL DRAINAGE LINES SHALL BE Ø100 SLOTTED uPVC WITH APPROVED FILTER WRAP LAID IN 300mm WIDE GRANULAR FILTER UNLESS NOTED OTHERWISE. LAY SUBSOIL LINES TO MATCH FALLS OF LAND AND/OR 1 IN 200 MINIMUM. PROVIDE CAPPED CLEANING EYE (RODDING POINT) AT UPSTREAM END OF LINE AND AT 30m MAX. CTS. PROVIDE SUBSOIL LINES TO ALL PAVEMENT/ LANDSCAPED INTERFACES, TO REAR OF RETAINING WALLS (AS NOMINATED BY
- 15. WHERE SUBSOIL DRAINAGE PASSES UNDER A PAVEMENT OR A SLAB, UNSLOTTED UPVC ARE TO BE PROVIDED UNLESS NOTED OTHERWISE.
- 16. ALL PIPE GRADES 1 IN 200 MINIMUM UNO.
- 17. PROVIDE STEP IRONS IN PITS DEEPER THAN 1000mm.

STRUCTURAL ENGINEER) AND AS SHOWN ON PLAN.

- 18. MIN. 600 COVER TO PIPE OBVERT BENEATH ROADS & MIN. 400 COVER BENEATH LANDSCAPED AND
- PEDESTRIAN AREAS. 19. PIT COVERS IN TRAFFICABLE PAVEMENT SHALL BE CLASS D 'HEAVY DUTY', THOSE LOCATED IN
- NON-TRAFFICABLE AREAS SHALL BE CLASS B 'MEDIUM DUTY' U.N.O. 20. PROVIDE CLEANING EYES (RODDING POINTS) TO PIPES AT ALL CORNERS AND T-JUNCTIONS WHERE
- NO PITS ARE PRESENT. 21. DOWN PIPES (DP) TO BE AS PER HYDRAULIC ENGINEERS DETAILS WITH CONNECTOR TO MATCH DP
- SIZE U.N.O. ON PLAN. PROVIDE CLEANING EYE AT GROUND LEVEL. 22. PIPE LENGTHS NOMINATED ON PLAN OR LONGSECTIONS ARE MEASURED FROM CENTER OF PITS TO
- THE NEAREST 0.5m AND DO NOT REPRESENT ACTUAL LENGTH. THE CONTRACTOR IS TO ALLOW
- 23. WHERE CONNECTION TO EXISTING INGROUND DRAINAGE SYSTEMS, OPEN SWALES, CHANNELS OR ANY OTHER EXISTING SYSTEM, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION AND INVERT ON SITE AT THE BEGINNING OF THE CONSTRUCTION PERIOD. REFER ANY VARIANCE FROM DOCUMENTATION OR SURVEYS TO THE ENGINEER FOR CLARIFICATION.



#### NOTES:

- 1. ALL SURFACE INLET PITS & ROOFWATER COLLECTION PITS DENOTED WITH TO BE FITTED WITH OCEANPROTECT OCEANGUARD OG200 PIT INSERTS.
- 2. PROVIDE SUBSOIL LINES TO ALL PAVEMENT, LANDSCAPE INTERFACES AND WALLS IN ACCORDANCE TO NOTE 14

SCALE 1:500 AT A1 SIZE SHEET

# FOR DEVELOPMENT APPLICATION

ARCHITECT ISSUED FOR DEVELOPMENT APPLICATION 23.04.25 ISSUED FOR DEVELOPMENT APPLICATION 15.04.25 ISSUED FOR INFORMATION 28.02.25 A DATE ISSUE AMENDMENTS

60 Castlereagh Street SYDNEY Goodman NSW, 2000, Australia Tel (02) 9230 7400 Fax (02) 9230 7444

CLIENT

PROPOSED INDUSTRIAL DEVELOPMENT 14 AQUATIC DRIVE, FRENCHS FOREST, NSW, 2086

CONSULT AUSTRALIA DESIGNED DRAWN DATE CHECKED SIZE SCALE CAD REF:

IL RN JAN '25 XC A1 AS SHOWN C09431.01-DA 40

STORMWATER DRAINAGE - KEY PLAN

Costin Roe Consulting Pty Ltd. ABN 50 003 696 446

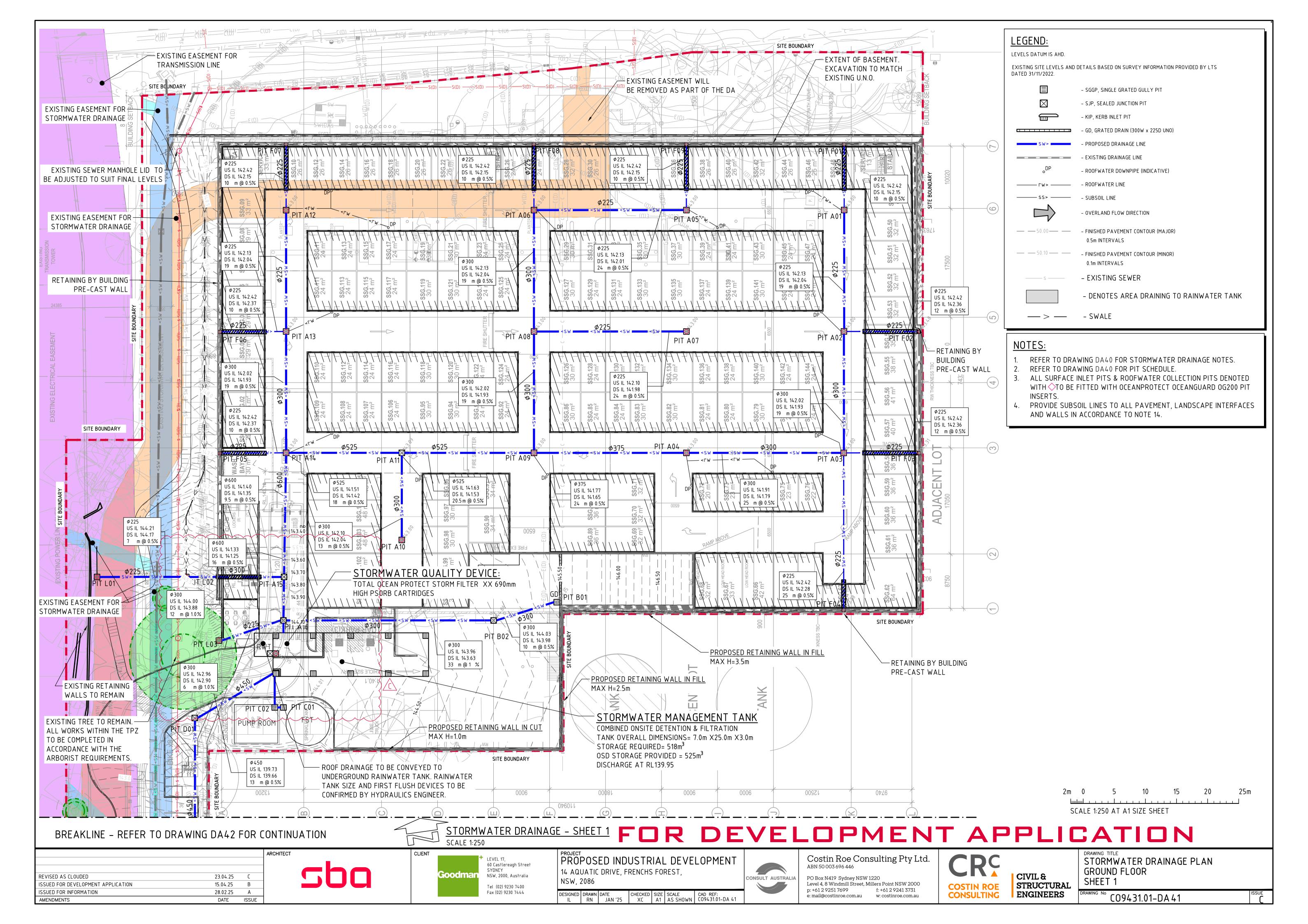
PO Box N419 Sydney NSW 1220 Level 4, 8 Windmill Street, Millers Point NSW 2000 p: +61 2 9251 7699 f: +61 2 9241 3731 e: mail@costinroe.com.au w: costinroe.com.au

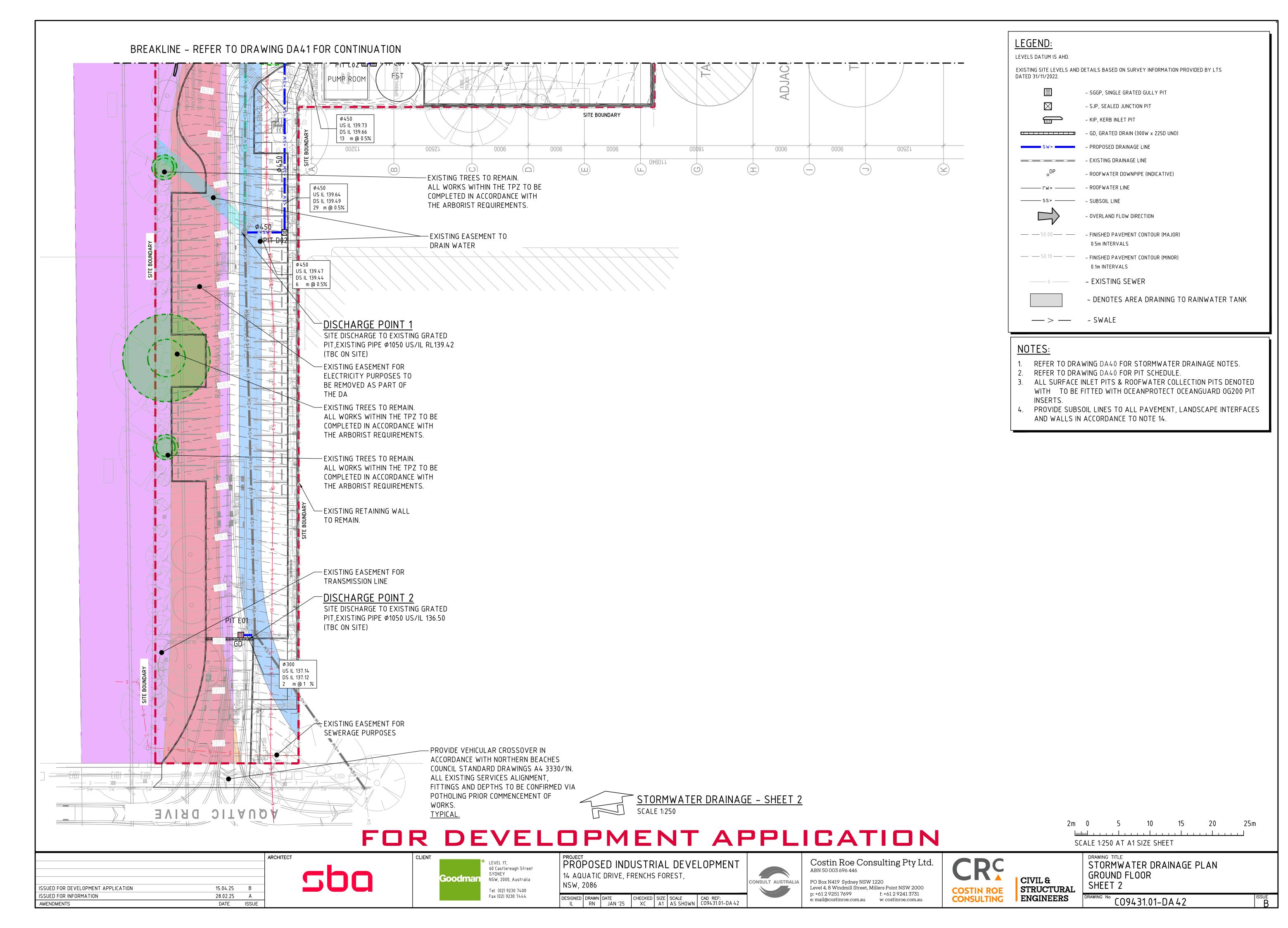
CONSULTING

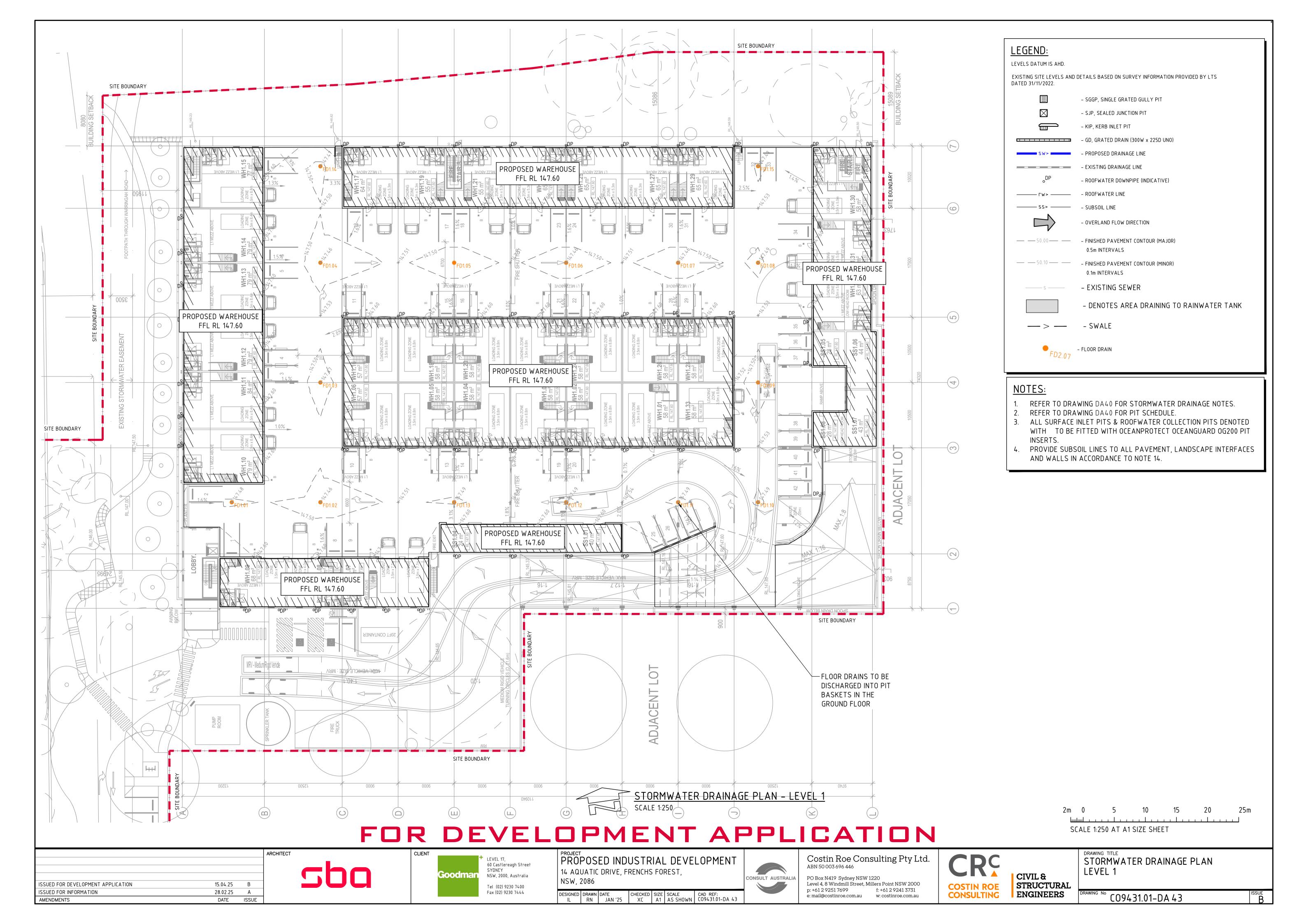
CIVIL & STRUCTURAL **ENGINEERS** 

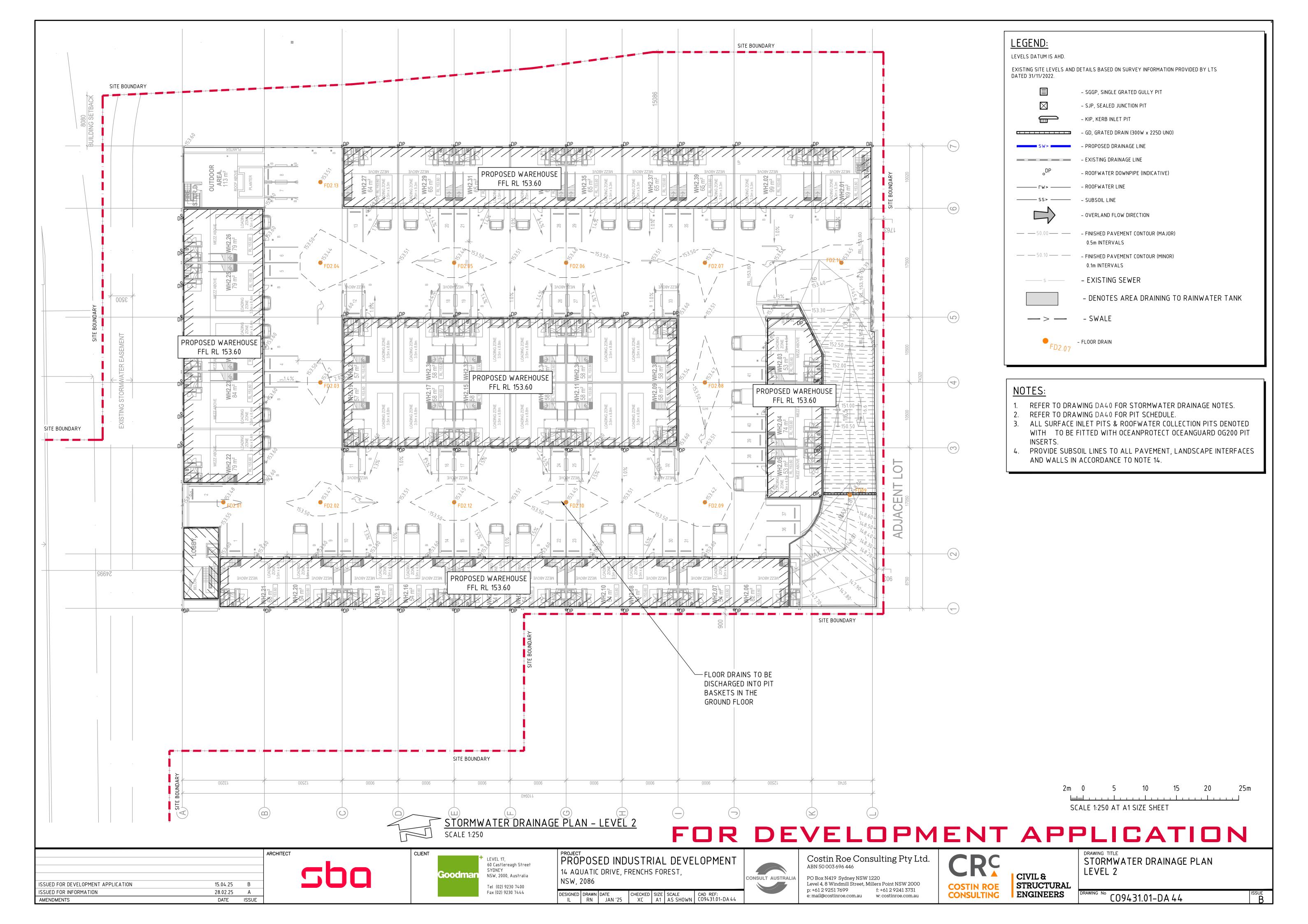
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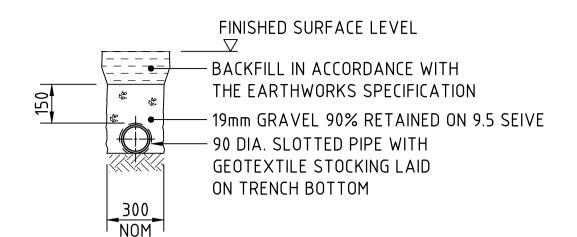
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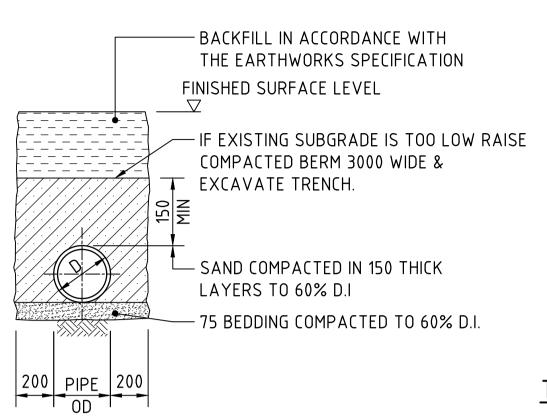








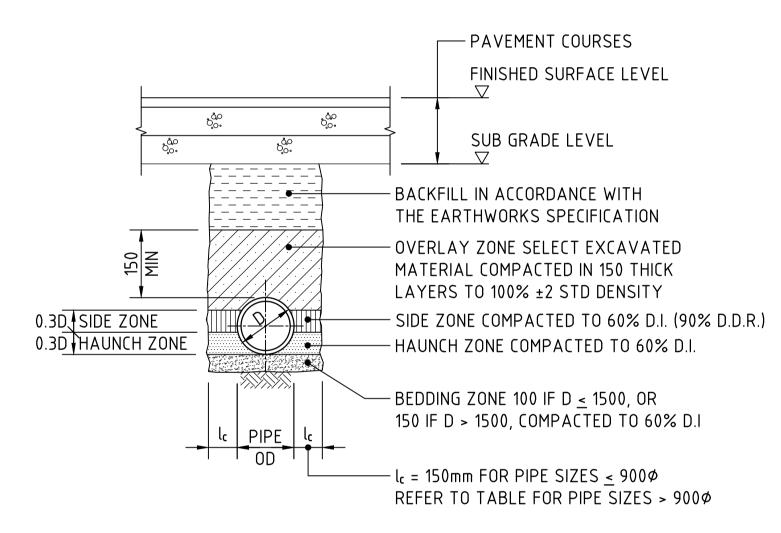
SUPPORT TO AGRICULTURAL DRAIN SCALE 1:20



FINISHED SURFACE LEVEL BACKFILL IN ACCORDANCE WITH THE EARTHWORKS SPECIFICATION OVERLAY ZONE SELECT EXCAVATED - MATERIAL COMPACTED IN 150 THICK LAYERS TO 90% STD. DENSITY 0.3D — HAUNCH ZONE COMPACTED TO 60% D.I. - 100 BEDDING COMPACTED TO 60% D.I. lc PIPE lc  $-l_c = 150$ mm FOR PIPE SIZES  $\leq 900$   $\phi$ REFER TO TABLE FOR PIPE SIZES > 900¢

TYPE H1 SUPPORT TO CONCRETE PIPES AT LANDSCAPED AREAS SCALE 1:20

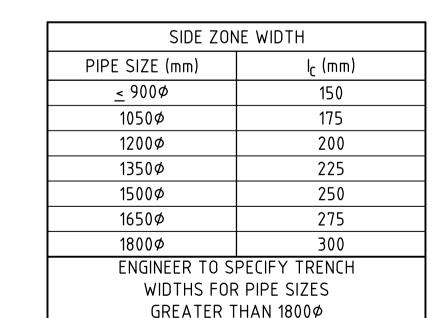
SUPPORT TO uPVC PIPES SCALE 1:20

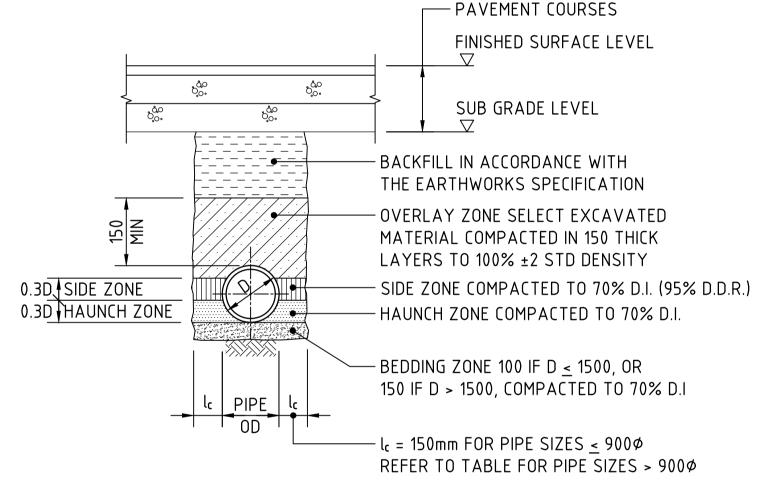


#### TYPE HS2 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT

SCALE 1:20  $D \le 1350$ , MAX FILL = 4.0m D > 1350, MAX FILL = 3.0m

BEDDING & HAUNCH MATERIAL GRADING			
SIEVE SIZE (mm)	WEIGHT PASSING (%)		
19.0	100		
2.36	100 TO 50		
0.60	90 TO 20		
0.30	60 TO 10		
0.15	25 TO 0		
0.075	10 TO 0		

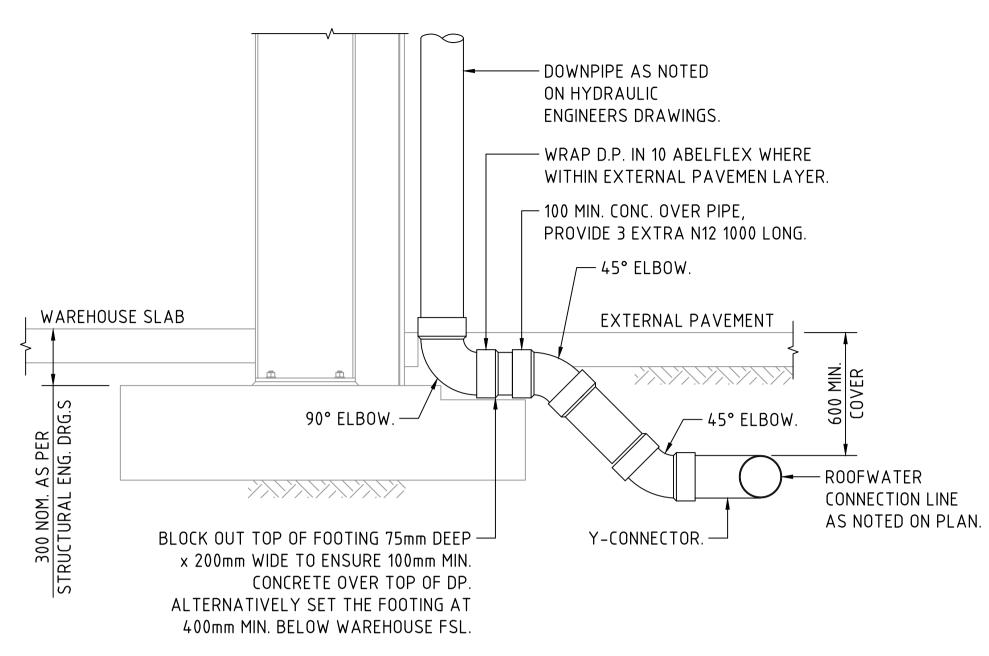




#### TYPE HS3 SUPPORT TO CONCRETE PIPES UNDER PAVEMENT

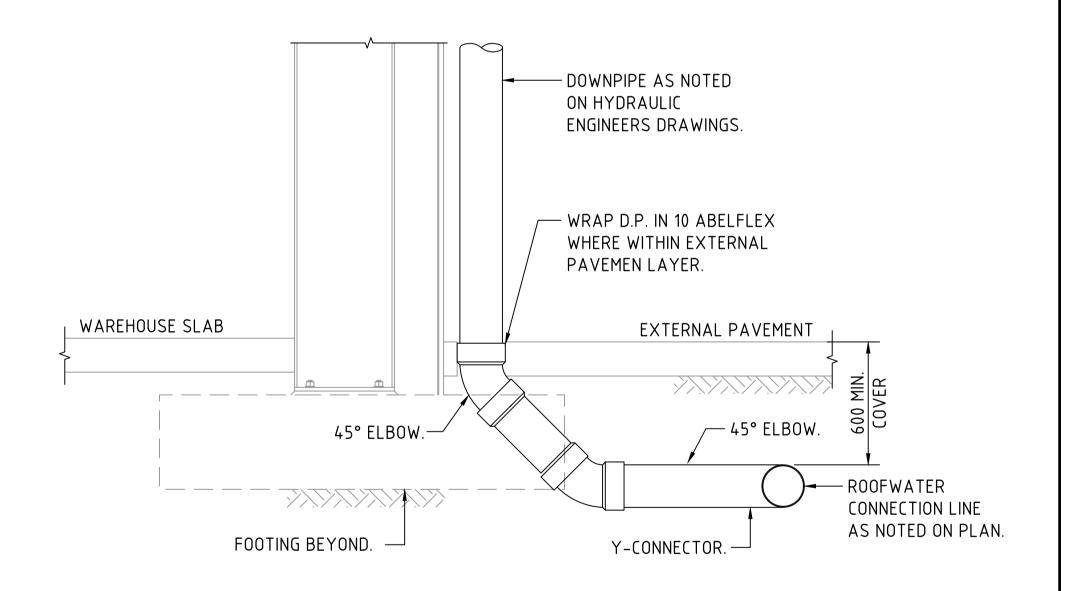
SCALE 1:20  $D \leq 1050$ , MAX FILL = 6.0m D > 1050, MAX FILL = 4.8m

SIDE ZONE MATERIAL GRADING			
SIEVE SIZE (mm)	WEIGHT PASSING (%)		
19.0	100		
9.5	100 TO 50		
2.6	100 TO 30		
0.60	50 TO 15		
0.075	25 TO 0		
SELECT FILL MATERIAL IN ACCORDANCE WITH			
TABLE 1 AS 3725			



#### DOWNPIPE TURN-UP DETAIL A

(AT FOOTING LOCATION) SCALE 1:20



#### DOWNPIPE TURN-UP DETAIL B (CLEAR OF FOOTING)

SCALE 1:20

200mm 2000mm SCALE 1:20 AT A1 SIZE SHEET

# FOR DEVELOPMENT APPLICATION

ARCHITECT ISSUED FOR DEVELOPMENT APPLICATION 15.04.25 ISSUED FOR INFORMATION 28.02.25 A AMENDMENTS DATE ISSUE



PROPOSED INDUSTRIAL DEVELOPMENT 14 AQUATIC DRIVE, FRENCHS FOREST, NSW, 2086 DESIGNED DRAWN DATE CHECKED SIZE SCALE CAD REF:

IL RN JAN '25 XC A1 AS SHOWN C09431.01-DA 45



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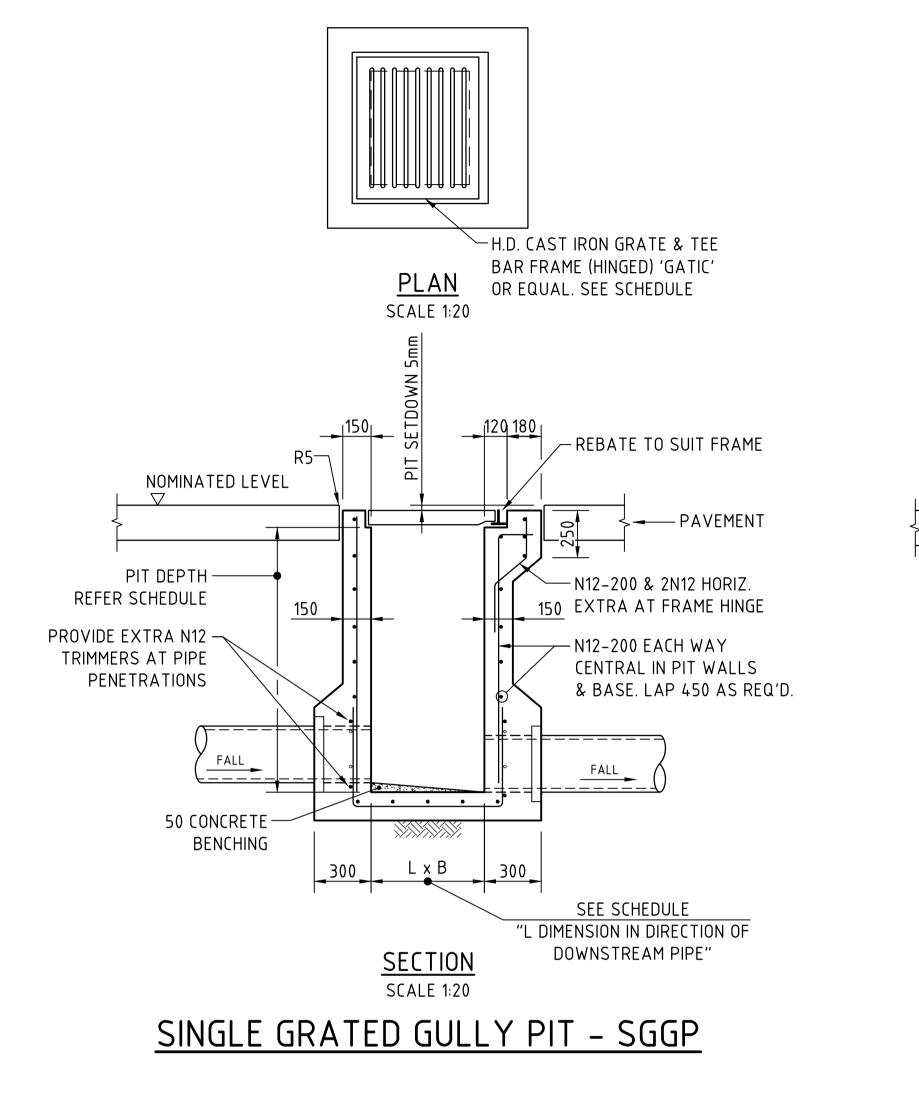
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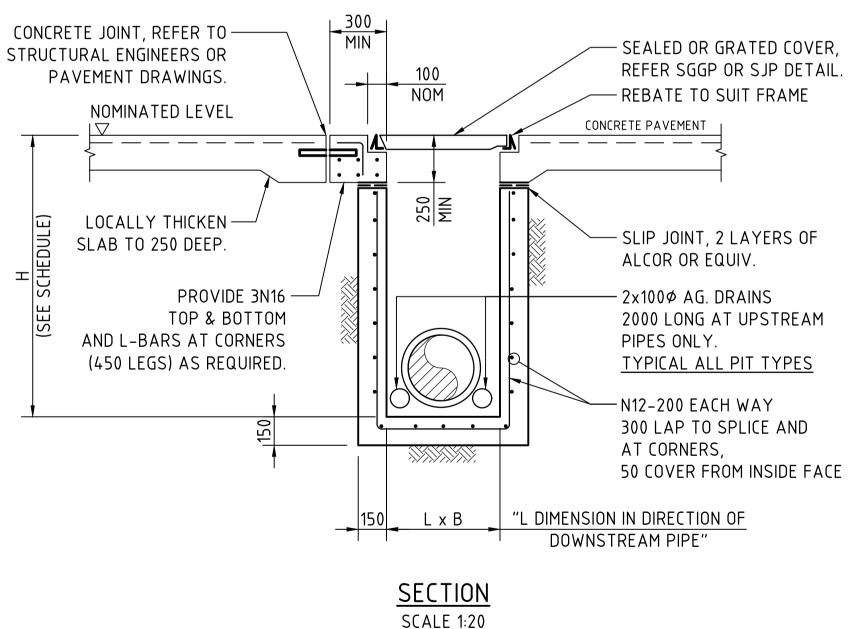


CIVIL & STRUCTURAL ENGINEERS

DRAWING TITLE STORMWATER DRAINAGE DETAILS SHEET 1

CO9431.01-DA45





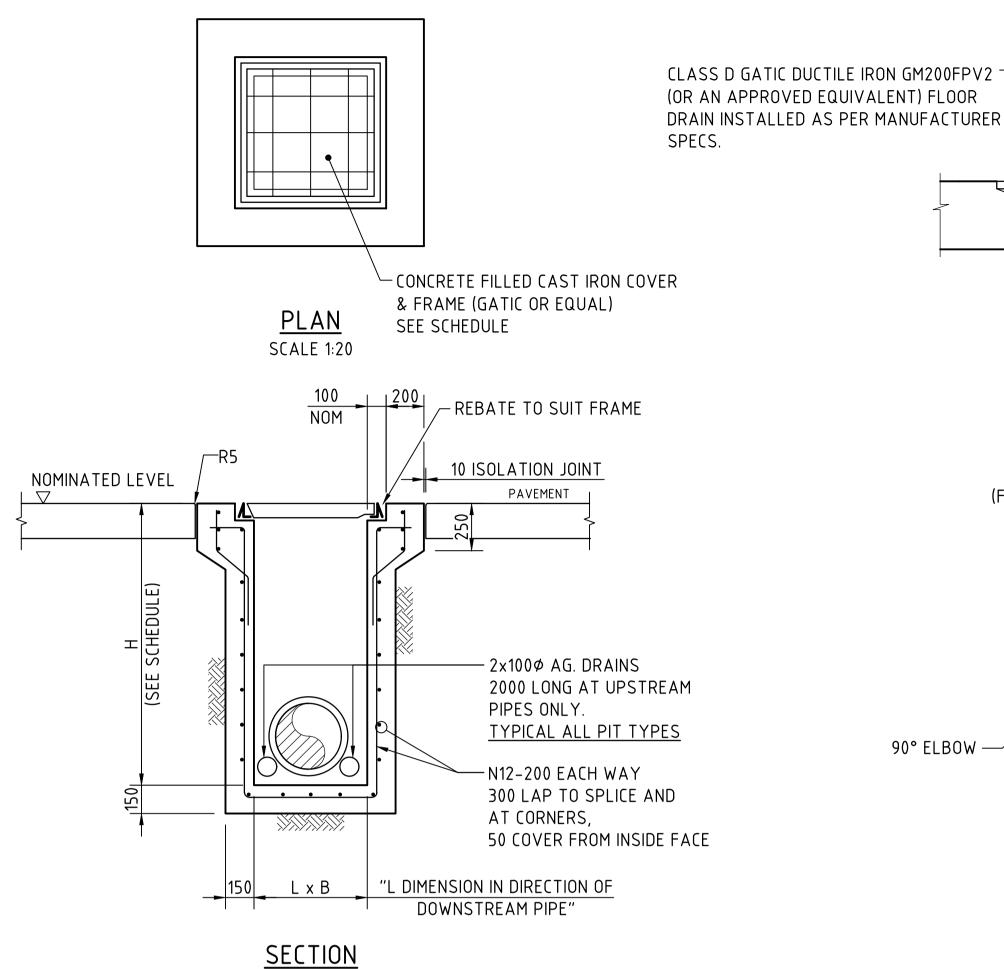
GRATE/COVER SUPPORT

CAST-INTO PAVEMENT SLAB

(ADOPT IN CONCRETE PAVEMENT FOR SGGP's & SJP's,

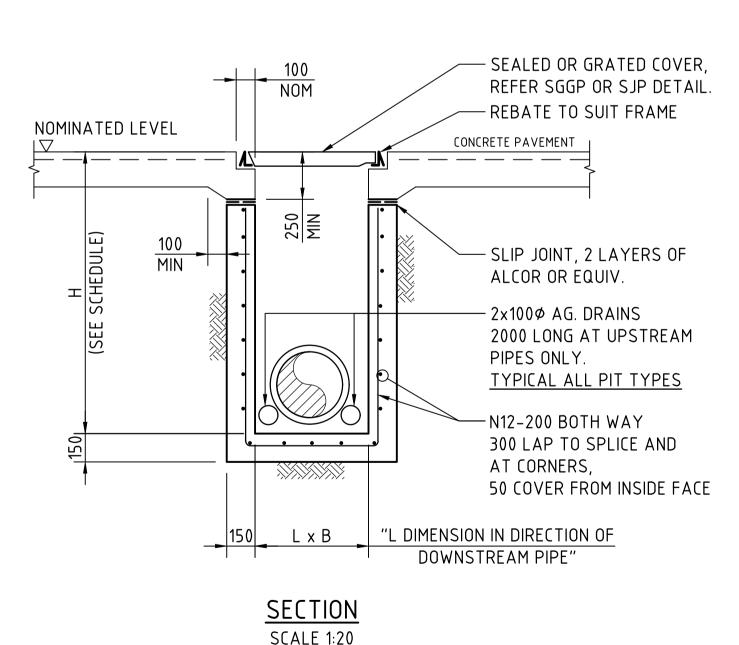
WHERE PITS ARE LOCATED IN THE CORNER OF SLAB

PANELS OR ADJACENT TO SLAB PANEL JOINTS)



### SEALED JUNCTION PIT - SJP

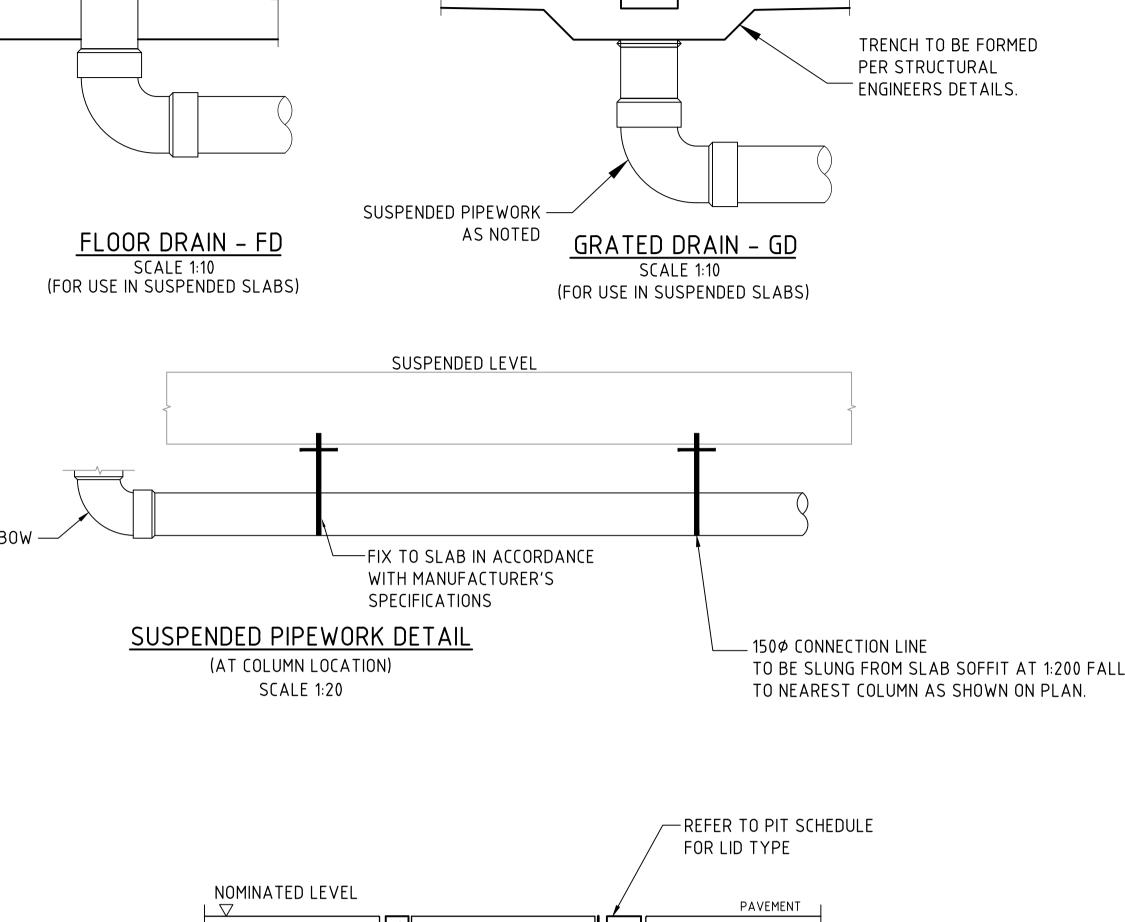
SCALE 1:20

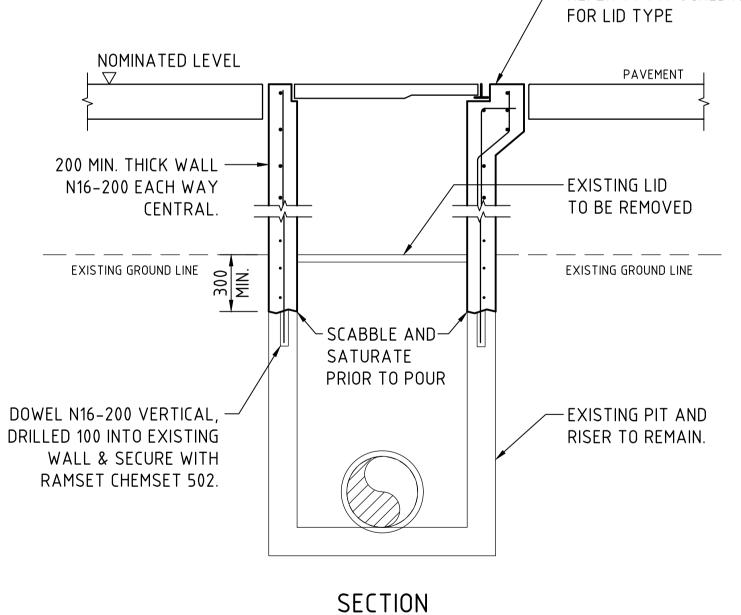


SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL SJP/CIS & SGGP/CIS (CAST IN SLAB) PIT DETAIL GRATE/COVER SUPPORT CAST-INTO PAVEMENT SLAB

> (ADOPT IN CONCRETE PAVEMENTS FOR SGGP's & SJP's, WHERE JOINTS ARE NOT LOCATED WITHIN PROXIMITY OF THE GRATE)

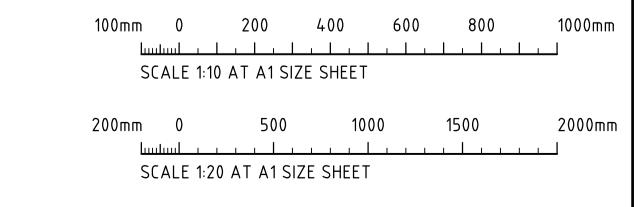
FOR DEVELOPMENT APPLICATION





## DRAINAGE PIT RISER DETAIL

SCALE 1:20



CLASS D GATIC DUCTILE IRON GM321L x 3012D

CONTINUOUS TRENCH GRATE INSTALLED AS

PER MANUFACTURERS SPECIFICATIONS.

(OR AN APPROVED EQUIVALENT)

ARCHITECT SSUED FOR DEVELOPMENT APPLICATION 15.04.25 28.02.25 A SSUED FOR INFORMATION AMENDMENTS DATE ISSUE





PROPOSED INDUSTRIAL DEVELOPMENT 14 AQUATIC DRIVE, FRENCHS FOREST, NSW, 2086



Costin Roe Consulting Pty Ltd. ABN 50 003 696 446

CRC CONSULTING

CIVIL & **ENGINEERS** 

STORMWATER DRAINAGE DETAILS SHEET 2

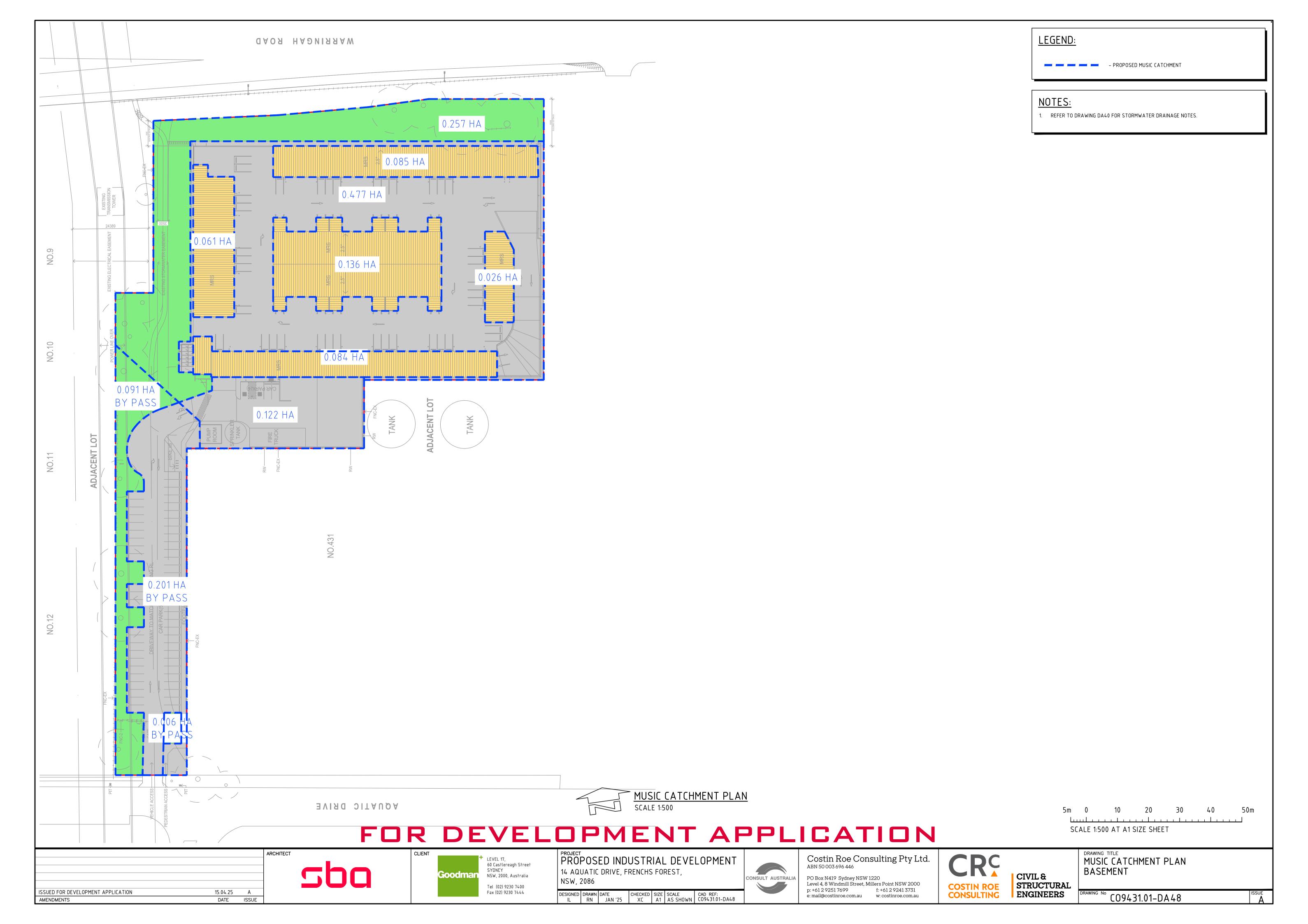
CO9431.01-DA 46

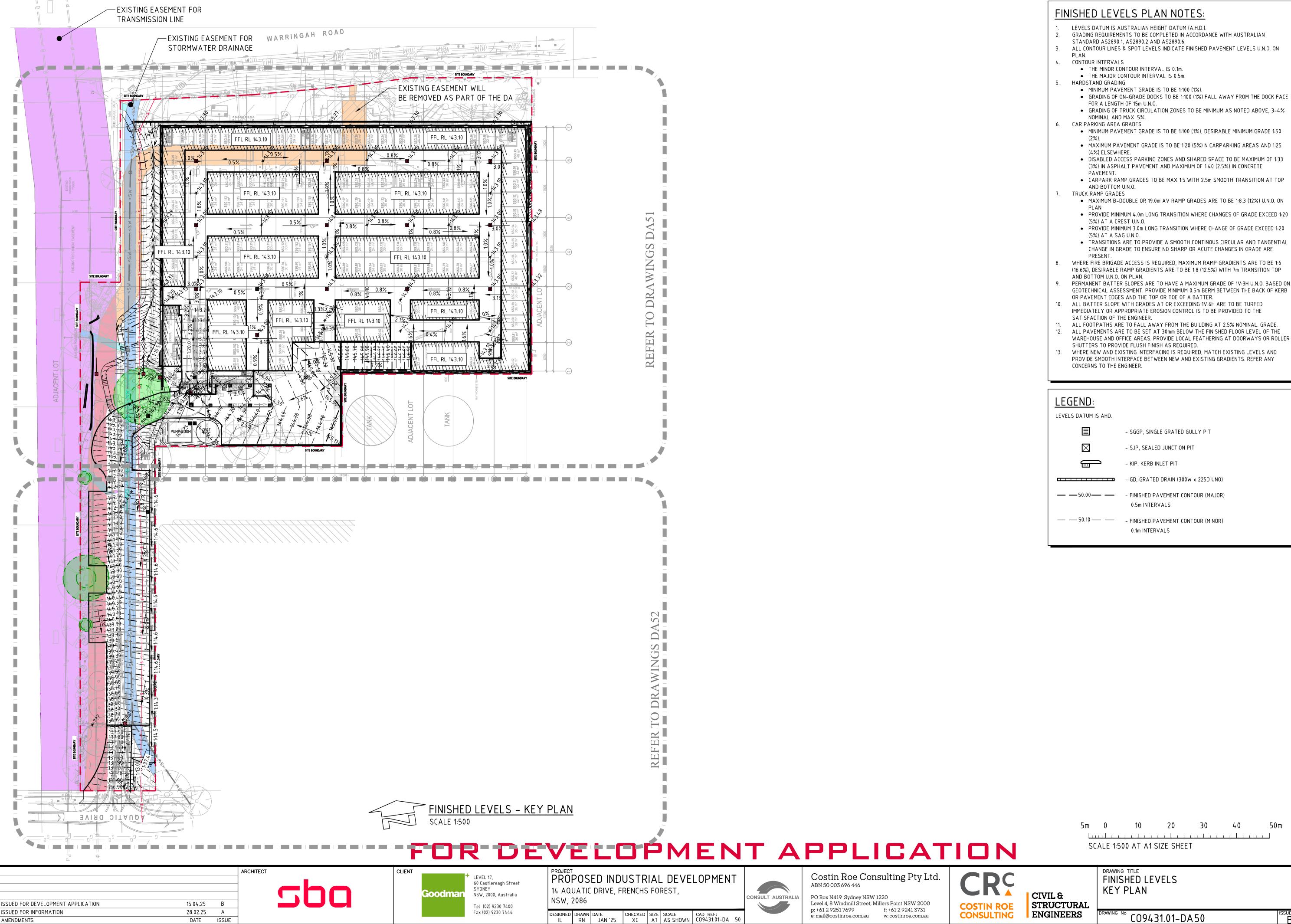
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IL RN JAN '25 XC A1 AS SHOWN C09431.01-DA 46

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STRUCTURAL





DATE ISSUE

AMENDMENTS

DRAWING No CO9431.01-DA50

