

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



E: mail@costinroe.com.au
P: +61 2 9251 7699
F: +61 2 9241 3731
W: costinroe.com.au

26 July 2024

Company Name

Attention: Mr. Louis Towning

Level 46, Gateway
1 Macquarie Street
SYDNEY NSW 2000

**Re: Proposed Temporary Crossing of Blacktown Creek
SSD-36138263
Augusta Street Warehouse and Distribution Centre
Augusta Street, Blacktown, NSW**

Dear Sir,

Costin Roe Consulting Pty Ltd (CRC) has been commissioned by The Trustee for Huntingwood Property Trust to prepare this memorandum to provide the relevant details, mitigation- and management measures on the proposed temporary Blacktown Creek construction crossing.

The associated Civil Engineering report have been completed in accordance with the technical requirements of the Secretary's Environmental Assessment Requirements (SEARs), and in support of the State Significant Development Application (SSD- 36138263) for the proposed Augusta Street warehouse and distribution centre at Augusta Street, Blacktown.

This memorandum provides an assessment of the civil engineering characteristics of the proposed temporary Blacktown Creek crossings and associated mitigation- and management measures to be considered.

Existing Blacktown Creek:

The existing Blacktown Creek is located central to the proposed Augusta Street Warehouse and Distribution Centre's Lot 4 and Lot 5 as seen in **Figure 1** below. In the current state of the site, the only access from the central lot east of Blacktown Creek to the lot on the western side is via the existing creek crossing to the south. No access is available from the Great Western Highway or the Western Motorway.

The Biodiversity Development Assessment Report by Anne Clements & Associates state that Blacktown Creek (1st order watercourse) is dominated by exotic weeds and the riparian zone of Blacktown Creek is treeless and swampy.

The existing Blacktown Creek will be rehabilitated and realigned under SSD-36138263. Alterations would therefore be required along Blacktown Creek during the development of the proposed Huntingwood Industrial estate.

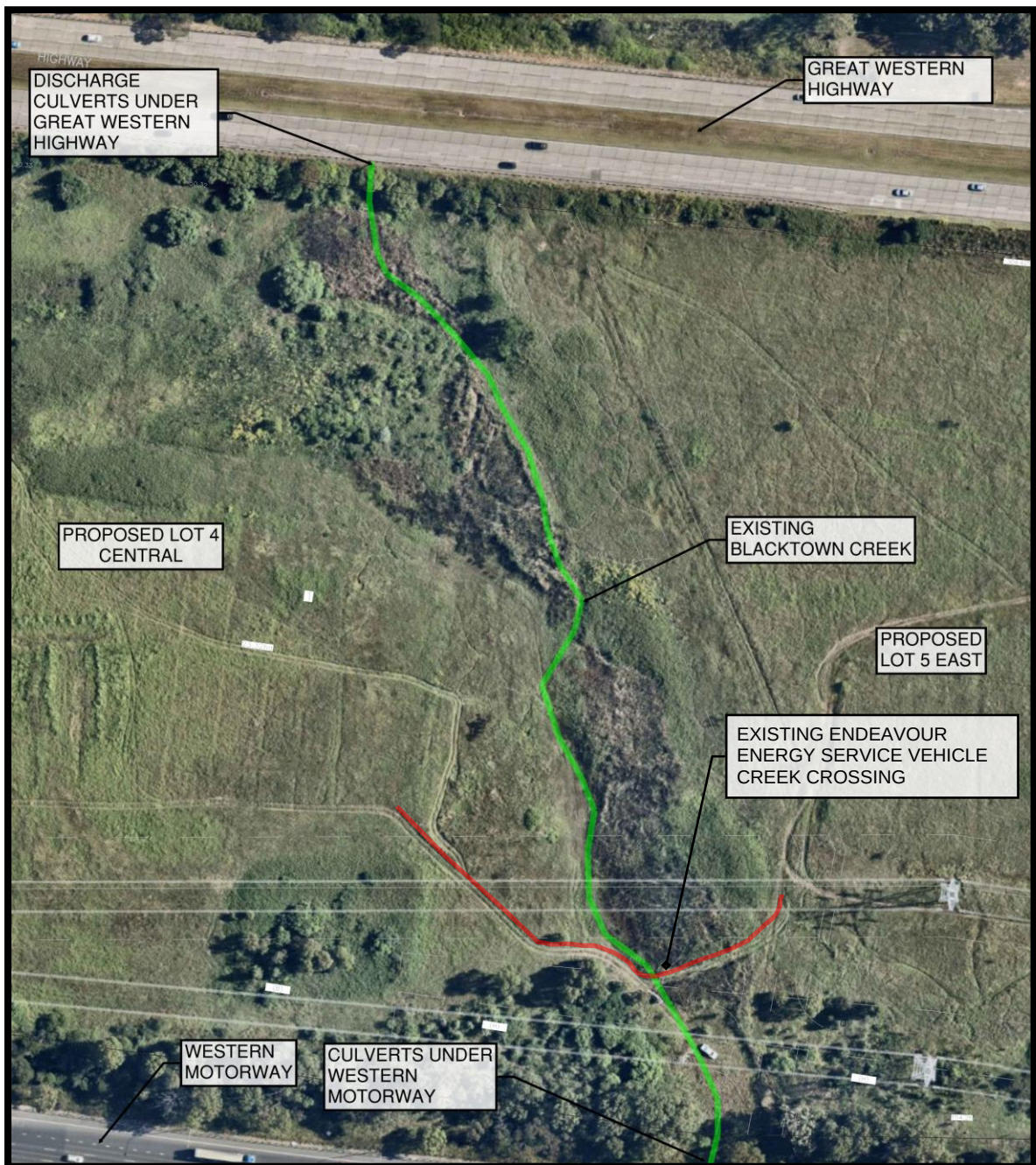


Figure 1 – Existing Blacktown Creek located central to Lot 4 and Lot 5

Proposed temporary Blacktown Creek Crossing:

Reference should be made to drawing **CO13904.03-SSDA190** and also the erosion and sediment control series of drawings, **CO13904.03-SSDA200 to SSDA251**.

Refer to **Figure 2** below for an indication of the two proposed temporary crossings' locations over Blacktown Creek for construction purposes.

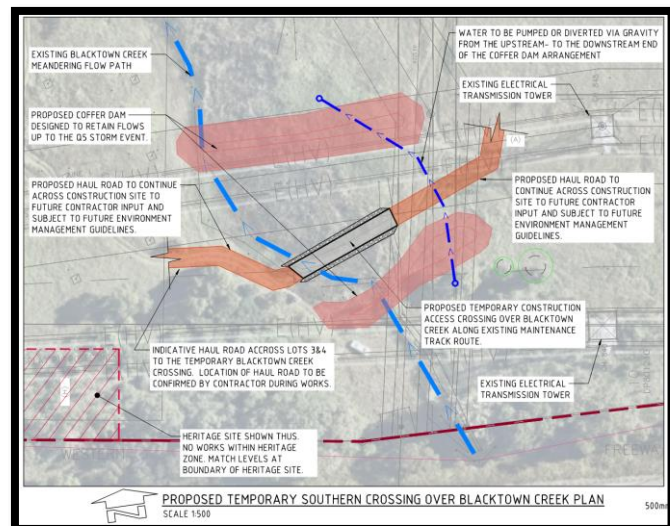
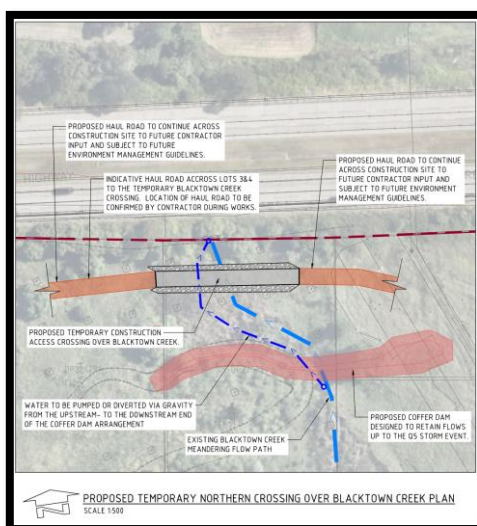
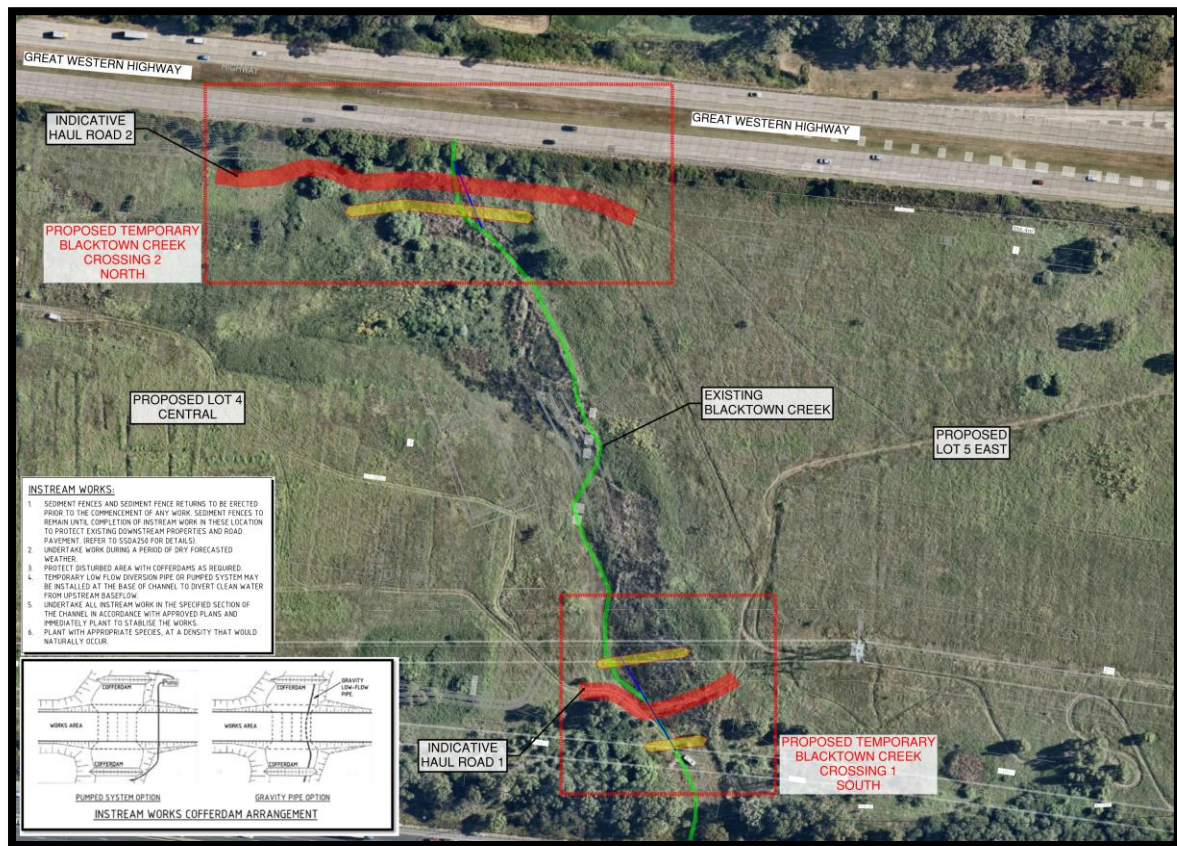


Figure 2 - Proposed optional temporary Blacktown Creek construction access crossings from the eastern lots to the western lot.

Proposed temporary crossing number 1, located south of Blacktown Creek, follows an existing maintenance track across the creek. However, this route crosses a proposed future wetland area and, therefore, cannot remain in place throughout the lifetime of the construction works.

Conversely, temporary crossing number 2, situated north of Blacktown Creek, is the preferable option as it can remain in place throughout the entire construction process, until the future intersection from proposed Lot 5 (west) with the Great Western Highway is constructed.

The temporary haul road crossings are expected to be made up of approximately 300mm thick road base. The contractor would be responsible for continuous maintenance of the temporary crossing throughout the construction period. The coffer dams will be sized to accommodate the 20% AEP storm event and the proposed temporary access track set at the 5% AEP storm event's estimate flood level. See **Figure 3** below. Cofferdams will be designed to allow sufficient storage upstream of cofferdams to ensure sufficient discharge from coffer dam to downstream of the access track without upstream impact to the creek or existing infrastructure.

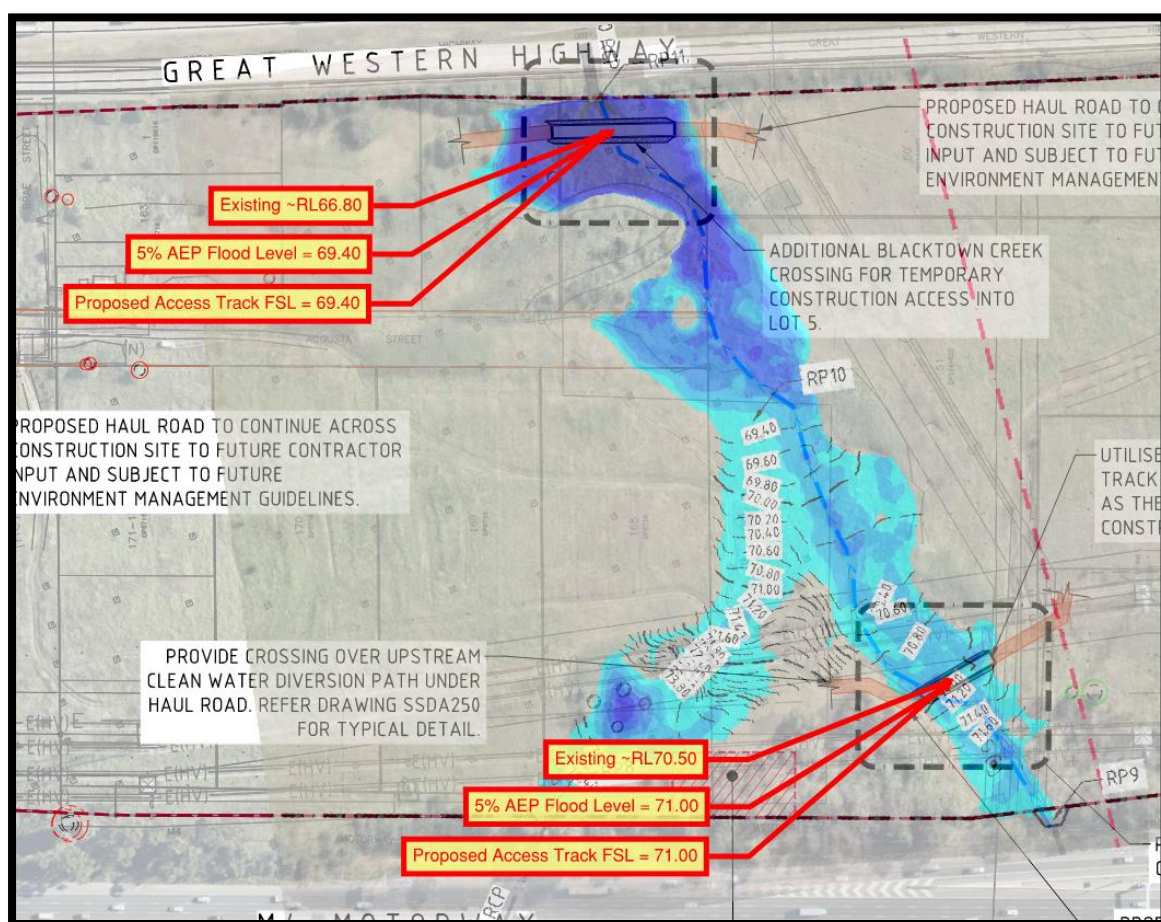


Figure 3 – 5% AEP Flood levels overlay onto proposed temporary access crossings (location of crossing to be set at detail design subject to Contractor input and the final ESCP and temporary works methodology.)

Sediment fences and sediment fence returns should be erected prior to the commencement of any work with Blacktown Creek. Sediment fences should remain in place until completion of the instream work associated with the construction of the temporary crossings, in these locations, to protect existing downstream infrastructure and vegetation. It is proposed that work is undertaken during a period of dry forecasted weather.

Refer to **Figure 4** below of proposed coffer dam arrangement to protect the disturbed area. A temporary low flow diversion pipe or pumped system should be installed at the base of the channel to divert clean water from the upstream baseflow. Figure 3 is showing potential options for the diversions of runoff through the works area based on recommendations of the IECA (*White Book – IECA*). Similar alternate works methodology may be employed in the final detail design subject to Contractor input and the final ESCP and temporary works methodology.

It is proposed that all instream works are undertaken in the specified section of Blacktown Creek in accordance with the abovementioned series of erosion and sediment control plans and immediately plant the works with appropriate species, at a density that would naturally occur, to stabilise the works.

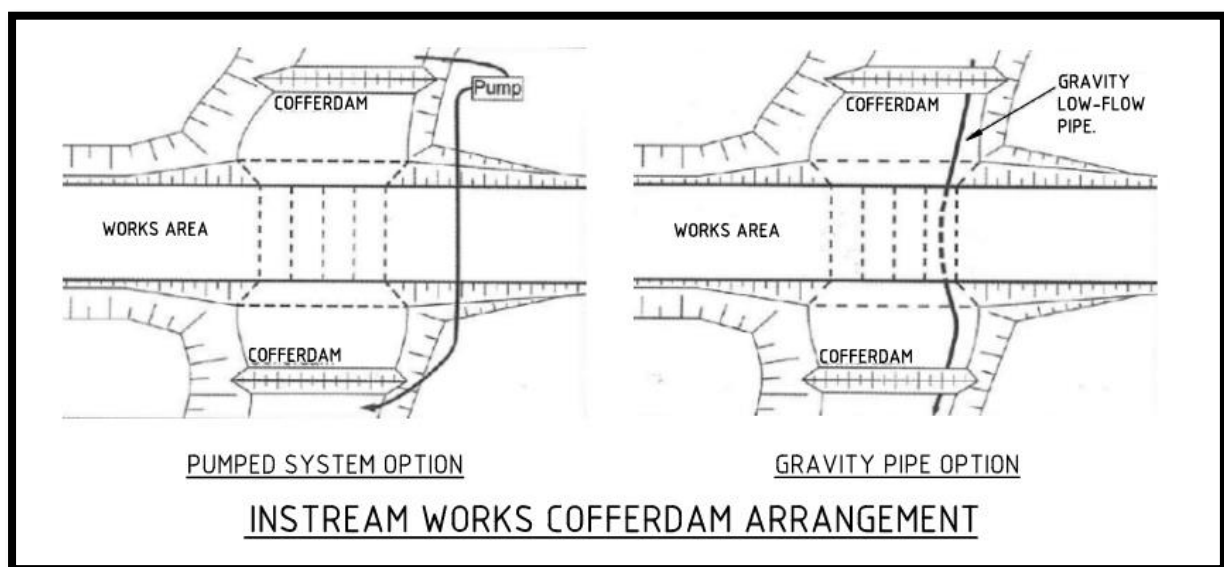


Figure 4 - Potential in-stream works cofferdam arrangements

Upon completion of the works and the provision of alternate access to Lot 5 (west), the instream works, and temporary access crossing need to be demolished and removed with minimal disturbance to the surroundings. The materials should be disposed of off-site. Following this, the rehabilitation of Blacktown Creek should be finalised in these locations and restored to its natural planted condition as per the proposed design.

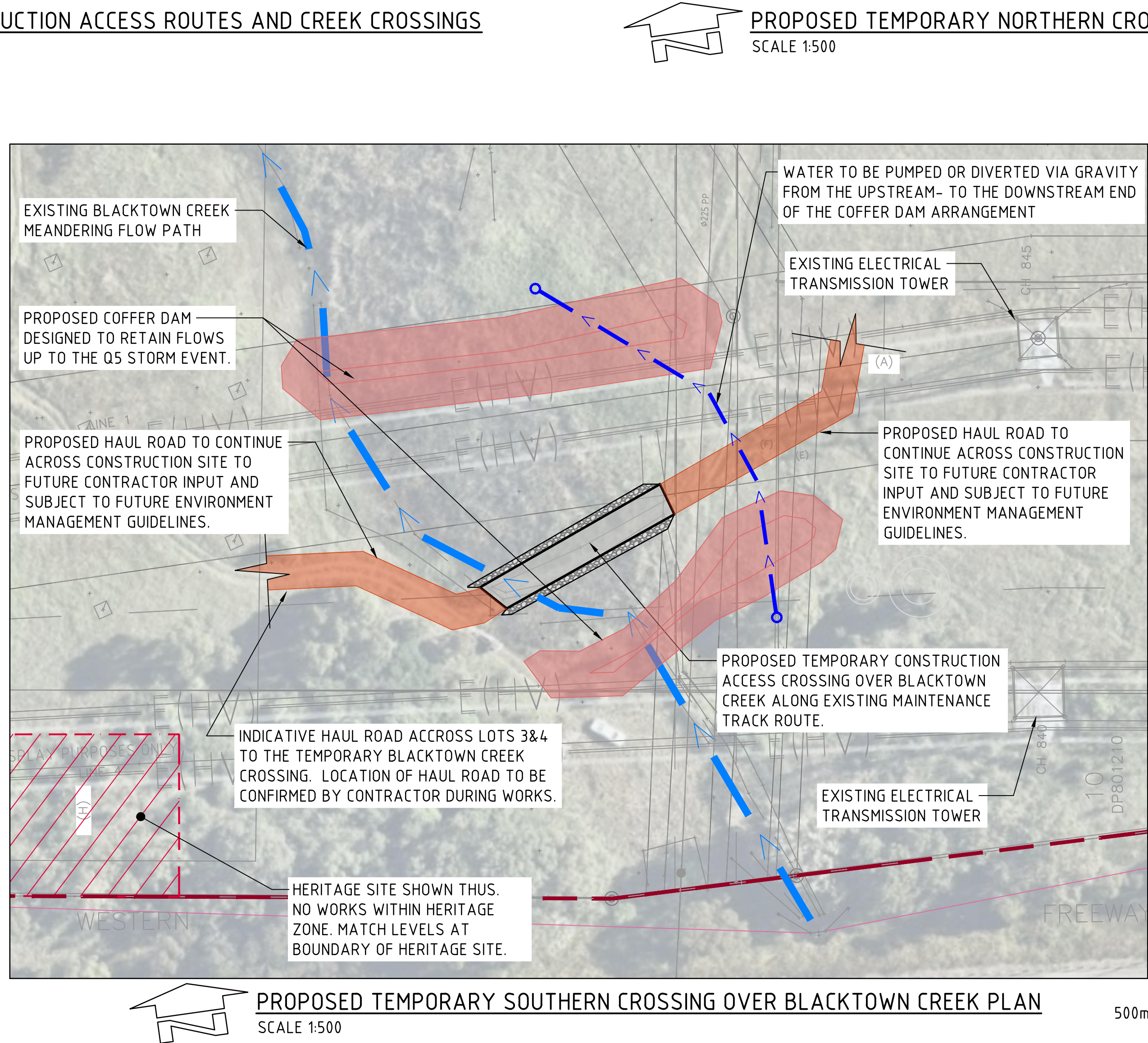
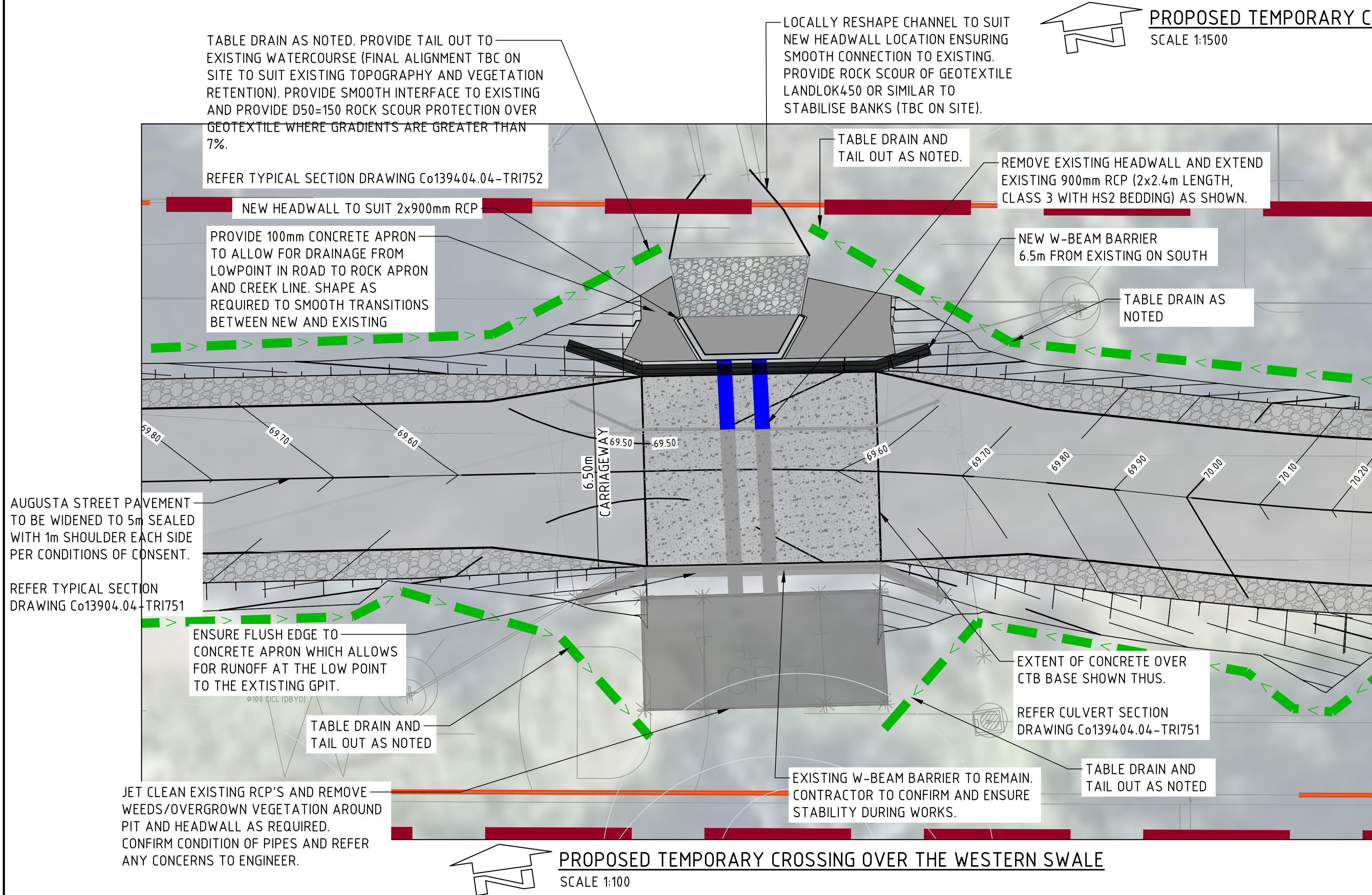
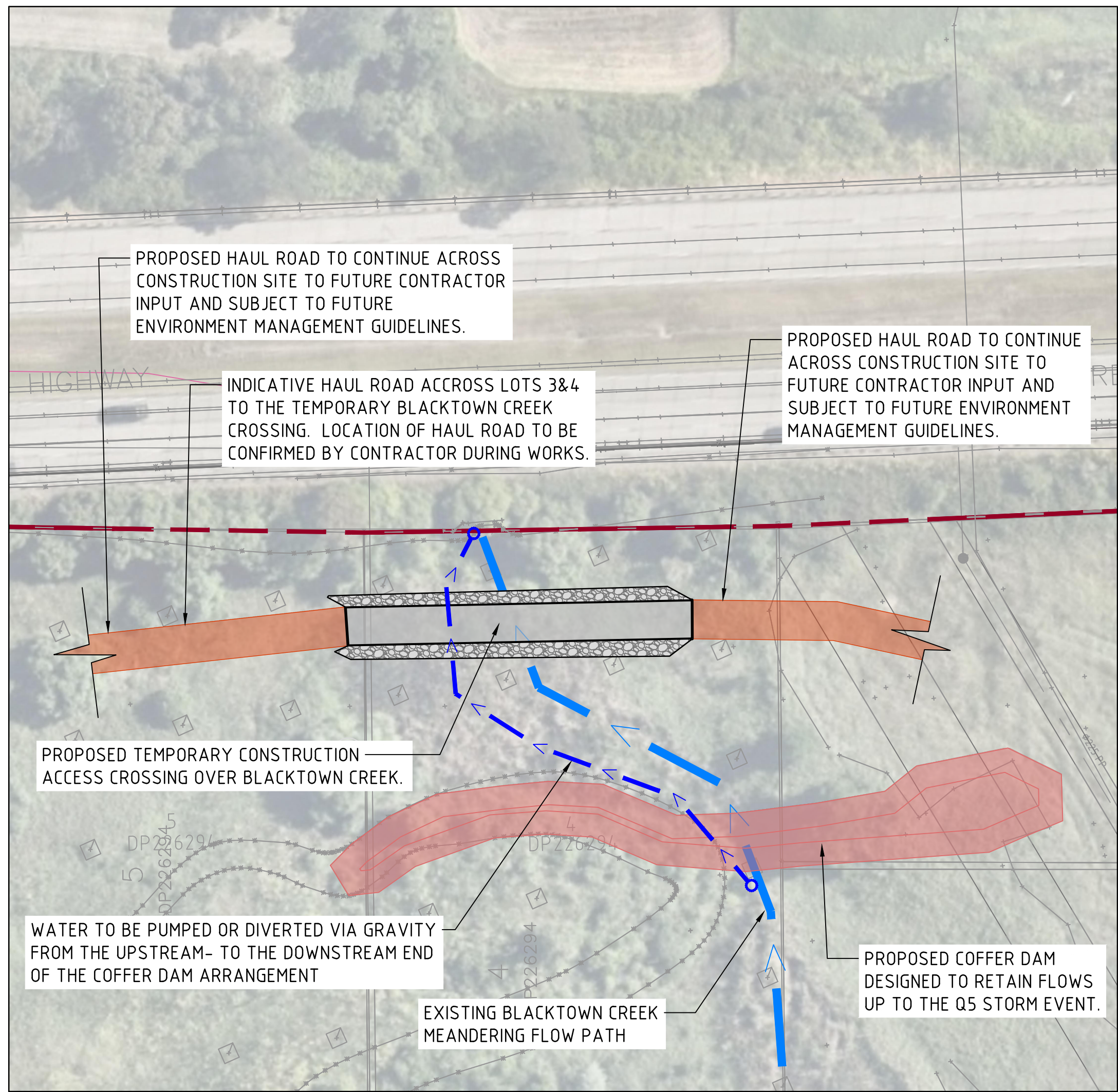
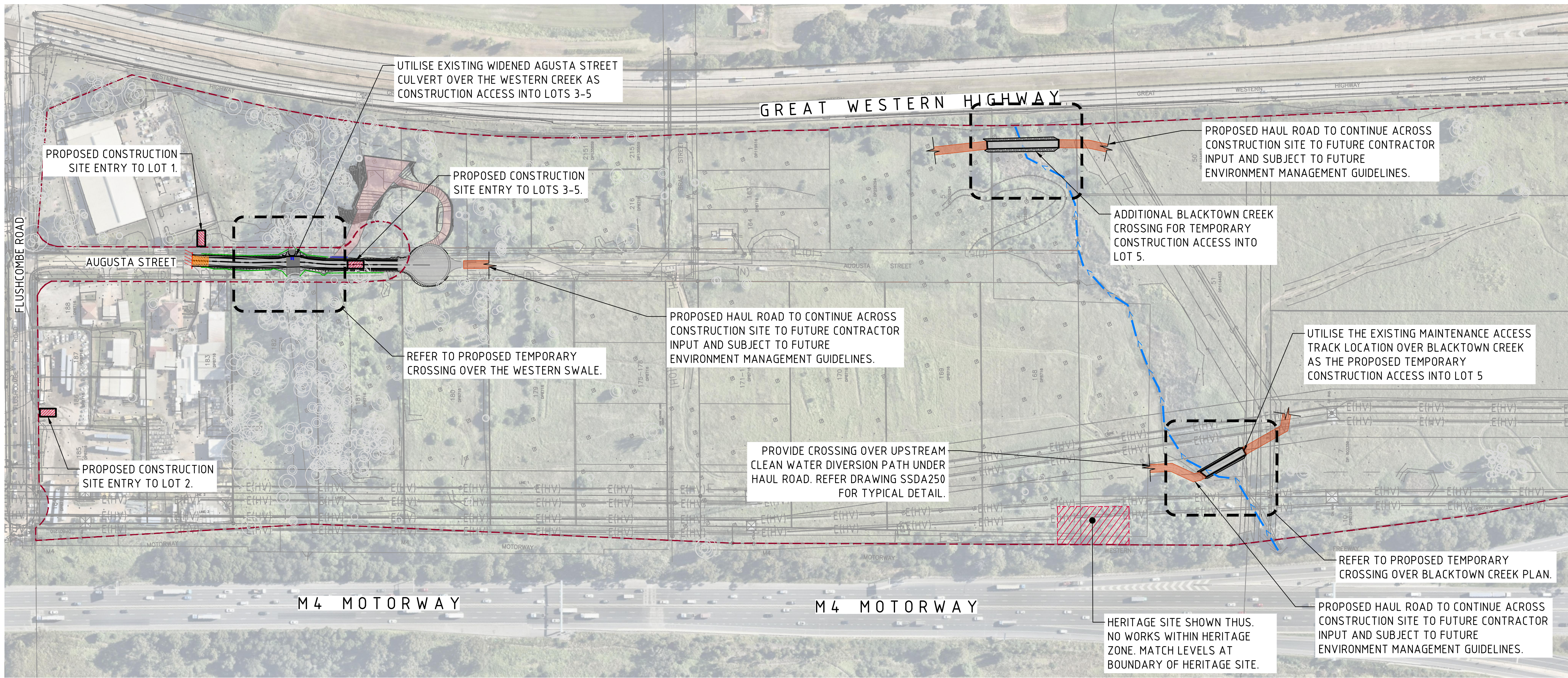
This letter is provided by Costin Roe Consulting Pty Ltd. Please contact the undersigned if clarification of any of the above items are required.

Yours faithfully,

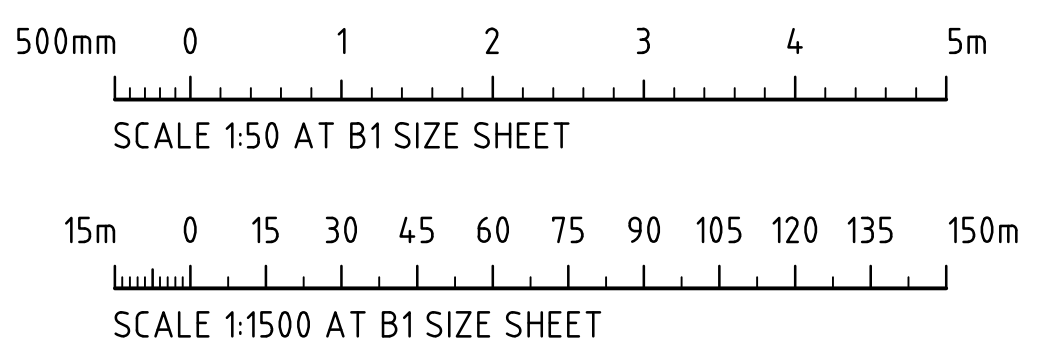
Costin Roe Consulting Pty Ltd

Lourens de Villiers

Senior Civil Design Engineer



NOTE:
REFERENCE SHOULD BE MADE TO
DRAWINGS SSDA200 TO SSDA202
FOR PROPOSED EROSION AND
SEDIMENT CONTROL MEASURES.



FOR SSDA

						ARCHITECT						CLIENT						PROJECT									DRAWING TITLE					
																					PROPOSED WAREHOUSE DISTRIBUTION			Costin Roe Consulting Pty Ltd.			PROPOSED TEMPORARY CONSTRUCTION					
																					AUGUSTA STREET, HUNTINGWOOD EAST, NSW 2148			ABN 50 003 696 446			ACCESS ROUTES AND CREEK CROSSINGS					
ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION			05.08.24			B																		PO Box N419 Sydney NSW 1220			CIVIL & STRUCTURAL ENGINEERS			DRAWING No		
ISSUED FOR INFORMATION			26.07.24			A																		Level 4, 8 Windmill Street, Millers Point NSW 2000			COSTIN ROE CONSULTING			C013904.03-SSDA190		
AMENDMENTS			DATE			ISSUE			AMENDMENTS			DATE			ISSUE									p: +61 2 9251 7699			ISSUE					
																								e: +61 2 9241 3731			B					
																								e: mail@costinroe.com.au								
																								w: costinroe.com.au								

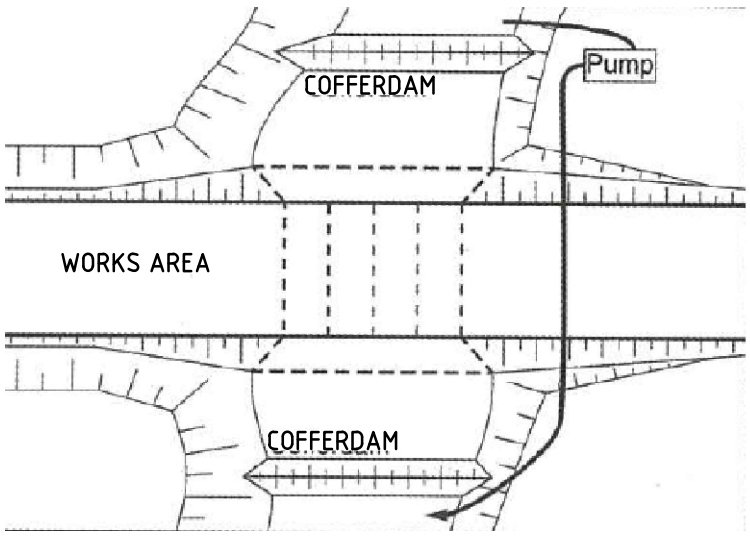
TABLE 1 – STABILISATION REQUIREMENTS AND TREATMENT METHODS				
DURING CONSTRUCTION – TEMPORARY STABILISATION (DURING PERIODS OF INACTIVITY OR WHEN WORKS ARE ON HOLD)				
LANDS	STABILISATION REQUIREMENT	TIMEFRAMES	TREATMENT METHODS – PRODUCTS	REMARKS
ALL LANDS	C-FACTOR = 0.15 (50% EQUIVALENT GROUND COVER ^[1])	APPLIES AFTER 20 WORKING DAYS OF INACTIVITY (EVEN THOUGH WORKS MIGHT CONTINUE LATER)	SOIL BINDER (I.E. VITAL P47/STONEWALL OR EQUIVALENT ^[1])	- SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT ^[1] . - VITAL DILUTION RATE = 1:10(VITAL:WATER). -RE-APPLY/MAINTAIN AS NECESSARY (APPROX. EVERY 3-6 MONTHS WITHOUT SUITABLE VEGETATION COVER) TO ENSURE THE REQUIRED COVER IS PROVIDED.
			GEOTEXTILE, JUTE MATTING, BLACK PLASTIC OR EQUIVALENT ^[1])	- COVER ALL EXPOSED SOILS. - RE-APPLY/MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PROVIDED.
WATERWAYS, DRAINAGE LINES AND CONCENTRATED FLOW AREAS	C-FACTOR = 0.05 (70% GRASS COVER OR EQUIVALENT GROUND COVER ^[1])	APPLIES AFTER 10 WORKING DAYS FROM COMPLETION OF FORMATION AND BEFORE THEY ARE ALLOWED TO CARRY CONCENTRATED FLOWS.	REFER TO THE DRAIN SPECIFICATIONS DETAILED ON THE PLAN FOR SPECIFIC LINING/STABILISATION REQUIREMENTS. EXAMPLE TREATMENT METHODS ARE SHOWN BELOW.	
			TEMPORARY LINING - GEOTEXTILE (I.E. BIDIM A24 OR EQUIVALENT ^[1])	- COMPLETE ANY SUBSOIL TREATMENT BEFORE LAYING THE MATTING. - INSTALL MATTING IN ACCORDANCE WITH SD 5-7. - RE-APPLY/MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PROVIDED.
			JUTE MESH, SEEDING AND SOIL BINDER (I.E. VITAL P47/STONEWALL OR EQUIVALENT ^[1]) - LOW FLOWS TO MODERATE	- COMPLETE SUBSOIL TREATMENT (I.E. GYPSUM LIGHTLY RIPPED INTO SUBGRADE AT A RATE OF 5 TONNES/Ha). - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75mm. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING. - INSTALL MATTING IN ACCORDANCE WITH SD 5-7. - SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT ^[1] . - VITAL DILUTION RATE = 1L / m ² OF DILUTED VITAL MIXTURE. - RE-APPLY/MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			JUTE MATTING (~350gsm) AND SEEDING OR EQUIVALENT ^[1]) - LOW FLOWS TO MODERATE	- COMPLETE SUBSOIL TREATMENT (I.E. GYPSUM LIGHTLY RIPPED INTO SUBGRADE AT A RATE OF 5TONNES/Ha). - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75mm. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING. - INSTALL MATTING IN ACCORDANCE WITH SD 5-7. - RE-APPLY/MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			TURF REINFORCEMENT MATTING (TRM) (E.G. TERRAMAT OR EQUIVALENT ^[1]) - MODERATE FLOWS	- COMPLETE SUBSOIL TREATMENT (I.E. GYPSUM LIGHTLY RIPPED INTO SUBGRADE AT A RATE OF 5TONNES/Ha). - PLACE TOPSOIL TO A DEPTH OF AT LEAST 75mm. - COMPLETE ANY FERTILISATION AND SEEDING BEFORE LAYING THE MATTING. - INSTALL MATTING IN ACCORDANCE WITH SD 5-7. - RE-APPLY/MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			ROCK LINING - HIGH FLOWS	- COMPLETE SUBSOIL TREATMENT (I.E. GYPSUM LIGHTLY RIPPED INTO SUBGRADE AT A RATE OF 5TONNES/Ha). - INSTALL GEOTEXTILE UNDERLAY (IF SPECIFIED) IN ACCORDANCE WITH SD 5-7. - INSTALL ROCK ARMOURING (TO THE DEPTH AND SIZE AS SPECIFIED ON THE PLAN).
			STOCKPILES	C-FACTOR = 0.10 (60% GRASS COVER OR EQUIVALENT GROUND COVER ^[1])
GEOTEXTILE, JUTE MATTING, BLACK PLASTIC OR EQUIVALENT ^[1])	- COVER ALL EXPOSED SOILS. - RE-APPLY/MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PROVIDED.			
GENERAL SURFACES	C-FACTOR = 0.10 / 0.05 (60% / 70% GRASS COVER OR EQUIVALENT GROUND COVER ^[1])	C-FACTOR = 0.1 APPLIES AFTER 10 WORKING DAYS FROM COMPLETION OF FORMATION AND C-FACTOR = 0.05 APPLIES WITHIN A FURTHER 60 DAYS	TOPSOIL, SEEDING AND SOIL BINDER (I.E. VITAL P47/STONEWALL OR EQUIVALENT ^[1])	- REFER TO SD 7-1 - COMPLETE SUBSOIL TREATMENT (I.E. GYPSUM LIGHTLY RIPPED INTO SUBGRADE AT A RATE OF 5TONNES/Ha). - PLACE GYPSUM TREATED TOPSOIL TO A DEPTH OF AT LEAST 75mm. - APPLY ANY FERTILISERS REQUIRED. - APPLY SEED TO ALL SURFACES. - SPRAY ALL SURFACES WITH VITAL P47/STONEWALL OR EQUIVALENT ^[1] . - VITAL DILUTION RATE = 1:10 (VITAL:WATER). - APPLICATION RATE = 1L / m ² OF DILUTED VITAL MIXTURE. - RE-APPLY/MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
			HYDROMULCH OR EQUIVALENT ^[1])	- REFER TO SD 7-1 - COMPLETE SUBSOIL TREATMENT (I.E. GYPSUM LIGHTLY RIPPED INTO SUBGRADE AT A RATE OF 5TONNES/Ha). - PLACE GYPSUM TREATED TOPSOIL TO A DEPTH OF AT LEAST 75mm. - APPLY HYDROMULCH WITH APPROVED SEED MIX TO SOIL SURFACE. - RE-APPLY/MAINTAIN AS NECESSARY TO ENSURE THE REQUIRED COVER IS PERMANENTLY MAINTAINED.
[1] – EQUIVALENT COVER/PRODUCT MUST ACHIEVE THE EQUIVALENT C-FACTOR WITH PROVEN RESEARCH/DOCUMENTATION TO VERIFY THIS. STANDARD DRAWINGS REFERENCED CAN BE LOCATED IN THE 'SOILS & CONSTRUCTION, MANAGING URBAN STORMWATER – VOLUME 1' BOOK BY LANDCOM. ALTERNATIVE DETAILS MAY BE SOUGHT IN CONSULTATION WITH THE ENGINEER				

TABLE 2 – LIMITATIONS TO ACCESS DURING CONSTRUCTION		
LAND USE	LIMITATION	REMARKS
CONSTRUCTION AREAS	LIMITED TO 5 (PREFERABLE 2) METRES FROM THE EDGE OF ANY ESSENTIAL CONSTRUCTION ACTIVITY AS SHOWN ON ENGINEERING PLANS.	ALL SITE WORKERS SHOULD CLEARLY RECOGNISE THESE AREAS THAT, WHERE APPROPRIATE, ARE IDENTIFIED WITH BARRIER FENCING (UPSLOPE) AND SEDIMENT FENCE (DOWNSLOPE) OR SIMILAR MATERIALS.
ACCESS CORRIDORS	LIMITED TO A MAXIMUM WIDTH OF 7 METERS	THE SITE MANAGER WILL DETERMINE AND MARK THE LOCATION OF THESE ZONES ON SITE, THEY CAN VARY IN POSITION SO AS TO BEST CONSERVE EXISTING VEGETATION AND PROTECT DOWNSTREAM AREAS WHILE BEING CONSIDERATE OF THE NEEDS EFFICIENT WORKS ACTIVITIES. ALL SITE WORKERS WILL CLEARLY RECOGNISE THESE BOUNDARIES.
REMAINING LANDS, INCLUDING REVEGETATION AREA	ENTRY PROHIBITED EXCEPT FOR ESSENTIAL MANAGEMENT WORKS	THINNING OF GROWTH MIGHT BE NECESSARY, FOR EXAMPLE, FOR FIRE REDUCTION OR WEED REMOVAL.

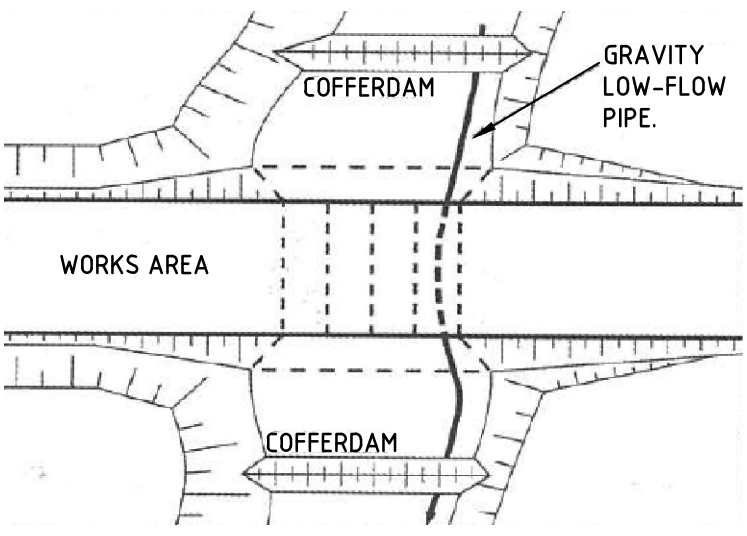
EROSION CONTROL NOTES

ALL SEDIMENT CONTROL WORK INCLUDING DIVERSION BANKS, CATCH DRAINS, V-DRAINS AND SEDIMENT FENCES SHALL BE COMPLETED IN ACCORDANCE WITH THE STAGED PLANS PRESENTED AND SHALL FACILITATE A STAGED CONSTRUCTION METHODOLOGY.

- ALL EROSION & SEDIMENT CONTROLS SHALL BE COMPLETED IN ACCORDANCE WITH THE 'SOILS AND CONSTRUCTION, MANAGING URBAN STORMWATER – THE BLUE BOOK' BY LANDCOM.
- SEDIMENT FENCES AND SEDIMENT FENCE RETURNS SHALL BE ERECTED CONVEX TO THE CONTOUR TO POND WATER.
- STRAW BALE BARRIERS & GEOFABRIC FENCES OR SEDIMENT FANCS ARE TO BE CONSTRUCTED TO TOE OF BATTER, PRIOR TO COMMENCEMENT OF EARTHWORKS, IMMEDIATELY AFTER CLEARING OF VEGETATION AND BEFORE REMOVAL OF TOP SOIL.
- ALL TEMPORARY EARTH BERMS, DIVERSION AND SEDIMENT BASIN EMBANKMENTS ARE TO BE MACHINE COMPACTED, SEEDDED AND MULCHED FOR TEMPORARY VEGETATION COVER AS SOON AS THEY HAVE BEEN FORMED. REFER TO TABLE 1 FOR APPROVED STABILISATION METHODS.
- CLEAN OR NON-SITE WATER IS TO BE DIVERTED AWAY FROM DISTURBED GROUND AND INTO THE DRAINAGE SYSTEM OVER STABLE SURFACES.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND PROVIDING ON GOING ADJUSTMENT TO EROSION CONTROL MEASURES AS REQUIRED DURING CONSTRUCTION.
- ALL SEDIMENT TRAPPING STRUCTURES AND DEVICES ARE TO BE INSPECTED AFTER STORMS OF 5mm OR GREATER WITHIN A 24 HOUR PERIOD FOR STRUCTURAL DAMAGE OR CLOGGING, TRAPPED MATERIAL IS TO BE REMOVED TO A SAFE, APPROVED LOCATION.
- THE SITE IS TO BE INSPECTED FOLLOWING A RAINFALL EVENT OF 5mm OR GREATER WITHIN A 24 HOUR PERIOD FOR EVIDENCE OF EROSION AND RESPOND WITH INCREASED CONTROL IF REQUIRED.
- ALL FINAL EROSION PREVENTION MEASURES INCLUDING THE ESTABLISHMENT OF GRASSING ARE TO BE MAINTAINED UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
- ALL EARTHWORKS AREAS SHALL BE ROLLED ON A REGULAR BASIS TO SEAL THE EARTHWORKS.
- ALL FILL AREAS ARE TO BE LEFT WITH A BUND AT THE TOP OF THE SLOPE AT THE END OF EACH DAY'S EARTHWORKS TO DIRECT WATER TO A STABLE OUTLET OVER THE BATTER OR INTERNALLY TOWARDS SEDIMENT CONTROL. THE HEIGHT OF THE BUND SHALL BE A MINIMUM OF 200mm.
- ALL CUT AND FILL SLOPES ARE TO BE SEEDDED AND HYDROMULCHED WITHIN 10 DAYS OF COMPLETION OF FORMATION.
- AFTER PERMANENT STABILISATION OF THE SITE IS COMPLETE (I.E. BY TOPSOILING, PAVING ETC.) AND THE SITE IS DEEMED TO BE STABLE IN THE OPINION OF A SUITABLY QUALIFIED PERSON ALL TEMPORARY WORK SUCH AS SEDIMENT FENCE, DIVERSION DRAINS ETC SHALL BE REMOVED.
- ALL STOCKPILES ARE TO BE SUITABLY COVERED AND STABILIZED TO THE SATISFACTION OF THE SITE MANAGER TO PREVENT WIND AND WATER EROSION.
- ANY AREA THAT IS NOT APPROVED BY THE CONTRACT ADMINISTRATOR FOR CLEARING OR DISTURBANCE BY THE CONTRACTOR'S ACTIVITIES SHALL BE CLEARLY MARKED AND SIGN POSTED, FENCED OFF OR OTHERWISE APPROPRIATELY PROTECTED AGAINST ANY SUCH DISTURBANCE.
- ALL STOCKPILE SITES SHALL BE SITUATED IN AREAS INDICATED ON THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN OR APPROVED FOR SUCH USE BY THE SITE MANAGER. A 6m BUFFER ZONE SHALL EXIST BETWEEN STOCKPILE SITES AND ANY STREAM OR FLOW PATH. ALL STOCKPILES SHALL BE ADEQUATELY PROTECTED FROM EROSION AND CONTAMINATION OF THE SURROUNDING AREA BY USE OF THE MEASURES IN THE APPROVED ESCP.
- ACCESS AND EXIT AREAS SHALL INCLUDE TRUCK SHAKER GRID OR OTHER METHODS APPROVED BY THE SITE MANAGER FOR THE REMOVAL OF SOIL MATERIALS FORM MOTOR VEHICLES.
- THE CONTRACTOR IS TO ENSURE RUNOFF FROM ALL AREAS WHERE THE NATURAL SURFACE IS DISTURBED BY CONSTRUCTION, INCLUDING ACCESS ROADS, DEPOT AND STOCKPILE SITES, SHALL BE FREE OF SEDIMENTS BEFORE IT IS EITHER DISPERSED TO STABLE AREAS OR DIRECTED TO NATURAL WATERCOURSES.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SLOPES, CROWNS AND DRAINS ON ALL EXCAVATIONS AND EMBANKMENTS TO ENSURE SATISFACTORY DRAINAGE AT ALL TIMES WATER SHALL NOT BE ALLOWED TO POND ON THE WORKS UNLESS SUCH PONDING IS PART OF AN APPROVED ESCP / SWMP.



PUMPED SYSTEM OPTION



GRAVITY PIPE OPTION

INSTREAM WORKS COFFERDAM ARRANGEMENT

DUST CONTROL NOTES:

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE DUST CONTROL MEASURES ARE APPLIED AND MAINTAINED IN ACCORDANCE WITH THE GOVERNING AUTHORITIES REQUIREMENTS.
- THE APPLICATION OF LIQUID BASED DUST SUPPRESSION MEASURES MUST BE SUCH THAT SEDIMENT LADEN RUNOFF RESULTING FROM SUCH MEASURES DOES NOT CREATE A TRAFFIC OR ENVIRONMENTAL HAZARD. (EG UTILISING SEDIMENT CONTROLS)
- DUST GENERATION ASSOCIATED WITH WIND EROSION TO BE CONTROLLED USING WATER TRUCKS, DUST SUPPRESSING FOG, MIST GENERATORS, SEALANT PLACED OVER THE SOIL, SURFACE ROUGHENING OR RE-VEGETATION.
- THE FOLLOWING ACTIVITIES SHALL BE ADOPTED, IF NECESSARY, TO MANAGE DUST CONTROL ON SITE:
 - LIMITING THE AREA OF SOIL DISTURBANCE AT ANY GIVEN TIME
 - REPLACING TOPSOIL AFTER COMPLETION OF EARTHWORKS.
 - PROGRAMMING WORK TO MINIMISE THE LIFE OF STOCKPILES.
 - TEMPORARILY STABILISING LONG-TERM STOCKPILES.
 - GRAVELLING UNSEALED ACCESS AND HAUL ROADS.
 - MINIMISING TRAFFIC MOVEMENT ON EXPOSED SURFACES.
 - LIMITING VEHICULAR TRAFFIC TO 15km/h.
 - RETAINING EXISTING VEGETATION AS WIND BREAKS.
 - UTILISING A WATER CART WITH POTABLE WATER ONLY
- OIL, LANDFILL GAS CONDENSATE OR ANY CONTAMINATED LEACHATE IS NOT TO BE USED FOR DUST SUPPRESSION.

INSTREAM WORKS:

- SEDIMENT FENCES AND SEDIMENT FENCE RETURNS TO BE ERECTED PRIOR TO THE COMMENCEMENT OF ANY WORK. SEDIMENT FENCES TO REMAIN UNTIL COMPLETION OF INSTREAM WORK IN THESE LOCATION TO PROTECT EXISTING DOWNSTREAM PROPERTIES AND ROAD PAVEMENT. (REFER TO SSDA250 FOR DETAILS).
- UNDERTAKE WORK DURING A PERIOD OF DRY FORECASTED WEATHER.
- PROTECT DISTURBED AREA WITH COFFERDAMS AS REQUIRED.
- TEMPORARY LOW FLOW DIVERSION PIPE OR PUMPED SYSTEM MAY BE INSTALLED AT THE BASE OF CHANNEL TO DIVERT CLEAN WATER FROM UPSTREAM BASEFLOW.
- UNDERTAKE ALL INSTREAM WORK IN THE SPECIFIED SECTION OF THE CHANNEL IN ACCORDANCE WITH APPROVED PLANS AND IMMEDIATELY PLANT TO STABLISE THE WORKS.
- PLANT WITH APPROPRIATE SPECIES, AT A DENSITY THAT WOULD NATURALLY OCCUR.

SITE STABILITY NOTE:

LAND DISTURBANCE & LAND FILLING ACTIVITIES MUST BE UNDERTAKEN IN A PHASED MANNER, IMPACTING A MAXIMUM AREA OF 65Ha AT ANY ONE TIME PER CONDITION B4(1a).
DISTURBED AREAS MUST BE STABILISED TO A C-FACTOR OF 0.05 PRIOR TO THE COMPLETION OF ANY OTHER WORKS PER CONDITION B4(1b).
REFER TO TABLE 1 ABOVE FOR APPROVED STABILISATION METHODS

INSPECTION & MAINTENANCE NOTES:

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ADEQUATE INSPECTIONS AND MAINTENANCE ARE CARRIED OUT DURING SITE WORKS. DAILY AND WEEKLY INSPECTION CHECKLISTS HAVE BEEN PROVIDED IN THE COSTIN ROE SOIL AND WATER MANAGEMENT PLAN (SWMP)
13904_03-03D.rpt DATED 23/07/23.

AS NOTED, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ADEQUATE MAINTENANCE OF EROSION & SEDIMENT CONTROL MEASURES ARE UNDERTAKEN DURING THE WORKS PERIOD. DAMAGED, DISLODGED OR FAULTY ESC MEASURES ARE TO BE IMMEDIATELY RECTIFIED AND THE SURROUNDING AREA IS TO BE REMEDIATED AS PER NOTES ON THIS DRAWING, THE SWMP AND THE LANDCOM 'BLUE BOOK'.

SOIL & WATER MANAGEMENT PLAN NOTE:

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SOIL AND WATER MANAGEMENT PLAN BY COSTIN ROE CONSULTING, REF 13904_03-03D.rpt

SEDIMENT CONTROL BASIN NOTES

- TYPE D BASIN IS REQUIRED.
- VOLUME OF THE BASINS SHALL BE AS NOMINATED ON DRAWING. NOMINAL POND LOCATIONS AND NOMINAL DIMENSIONS.
- SEDIMENT BUILD UP TO NOT EXCEED 33% TOTAL CAPACITY OF BASIN.
- DEWATERING OF BASIN TO BE PERFORMED TO THE BOTTOM OF THE SEDIMENT SETTLING ZONE FOLLOWING ACHIEVEMENT OF WQO'S. MANAGEMENT OF DOSAGE AND DISCHARGE TO BE ACHIEVED WITHIN 5 DAYS OF THE INITIAL RAINFALL EVENT.
- FOLLOWING DEWATERING PER NOTE 4, WATER LEVEL TO BE MAINTAINED AT 20% CAPACITY AFTER A FOUR DAY SETTLING PERIOD FOLLOWING A STORM EVENT SUCH THAT THE BASIN HAS SUFFICIENT CAPACITY TO CONTAIN RUNOFF AND SEDIMENT FROM SUBSEQUENT RAINFALL EVENTS.
- WATER TO BE DOSED WITH GYPSUM TO ACCELERATE SETTLEMENT OF SUSPENDED SOLIDS AS REQUIRED.
- GYPSUM DOSAGE RATE TO BE APPLIED AT APPROX. 32kg PER 100 CUBIC METRE OF COLLECTED RUNOFF.
- THE USE OF ALUM (OR ANY OTHER ALTERNATIVE) AS A FLOCCULANT IS NOT RECOMMENDED. ALUM OR ANY OTHER FLOCCULANT IS TO BE USED ONLY FOLLOWING CONSULTATION WITH AND ACCEPTANCE FROM COUNCIL ESC OFFICERS.
- DISCHARGE FROM POND IS PERMISSIBLE WHEN THE WATER PH IS 6.5-8.5 AND IS CLARIFIED TO AT OR BELOW A TSS OF 50mg/L. CLARIFICATION WOULD GENERALLY BE ACHIEVED IN 36-72 HOURS WITH THE USE OF GYPSUM PLUS NO VISIBLE OIL OR GREASE. CORRELATION TESTS MUST BE UNDERTAKEN ON SITE TO ENSURE THIS IS ACHIEVED.
- DEWATERING SHALL BE DONE IN SUCH A MANNER AS TO REMOVE THE CLEAN WATER (BEING WATER WITHIN THE ADOPTED CRITERIA) WITHOUT REMOVING OR DISTURBING THE SEDIMENT THAT HAS SETTLED. THE PUMP INTAKE PIPE IS NOT TO REST ON THE SETTLED SEDIMENT LAYER.
- IF WATER EXCEEDS TSS OF 50mg/L DURING DEWATERING, PUMPING IS TO CEASE. RECORDS ARE TO BE KEPT (ON-SITE AT ALL TIMES) OF ALL MEASUREMENT PRIOR TO, DURING AND AFTER DISCHARGE. RECORDS TO BE MADE AVAILABLE TO COUNCIL OFFICERS UPON REQUEST.
- PROVIDE SECURITY FENCE TO BASIN FOR SAFETY.

SEDIMENTATION BASIN NOTE:

REFER TO SEDIMENT & EROSION CONTROL NOTES.

FOR SEDIMENT AND EROSION CONTROL DETAILS, REFER TO THE LANDCOM 'BLUE BOOK' AND EXTRACTS ON DRAWING SSDA250.

SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION, MANAGING URBAN STORMWAER-THE BLUE BOOK'. CAPACITY BASED ON 5-DAY RAINFALL DEPTHS AT 85th PERCENTILE INTENSITY (32.2mm) IN THE LIVERPOOL CATCHMENT AREA.

NOTES:

- ASSUME TYPE D SOIL (CLAY/SILTY CLAY)
- ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)
- REFER TO DRAWING SSDA201 FOR SEDIMENTATION BASIN CALCULATIONS

ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	02.08.24	E	
ISSUED FOR INFORMATION	19.07.24	D	
REVISED AS CLOUDED	10.07.23	C	
ISSUED FOR INFORMATION	30.06.23	B	
ISSUED FOR INFORMATION	16.06.23	A	
AMENDMENTS	DATE	ISSUE	AMENDMENTS
	DATE	ISSUE	

ARCHITECT



CLIENT



PROJECT
PROPOSED WAREHOUSE DISTRIBUTION
AUGUSTA STREET, HUNTINGWOOD EAST, NSW 2148

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
LDV	JB	JUNE '22	MW	B1	AS SHOWN	C013904_03-SSDA210



Costin Roe Consulting Pty Ltd.
ABN 50 003 696 446

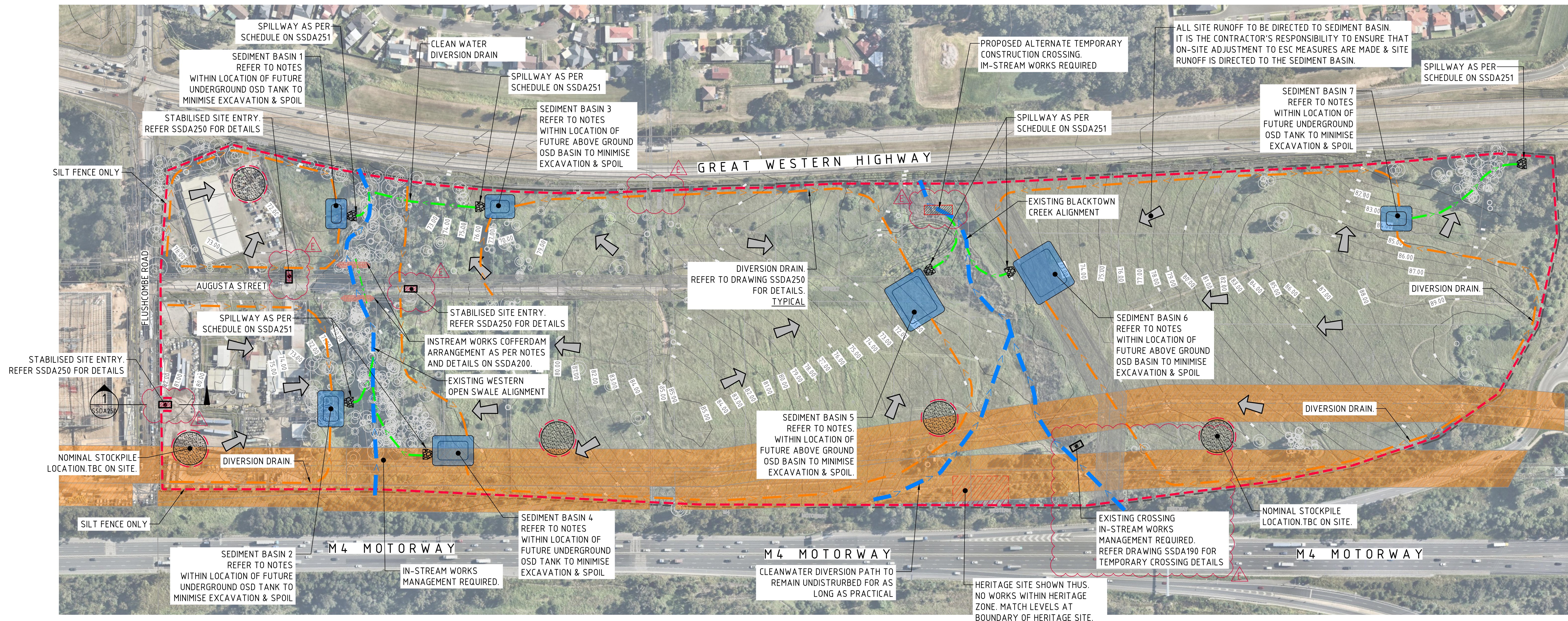
PO Box N419 Sydney NSW 1220
Level 4, 8 Windmill Street, Millers Point NSW 2000
p: +61 2 9251 7699
e: mail@costinroe.com.au



DRAWING TITLE
EROSION & SEDIMENT CONTROL
ENGINEERING NOTES

DRAWING No
C013904.03-SSDA200

ISSUE
E



EROSION AND SEDIMENT CONTROL PLAN - STAGE 1
SCALE 1:1500

STAGING NOTES- STAGE 1:

- STAGE 1 REPRESENTS INITIAL SITE ESTABLISHMENT. THE STAGE 1 SCOPE IS NOTED TO BE PRIOR TO SITE STRIPPING & GRUBBING.
- STAGE 1 IMPLEMENTATION RECOMMENDATIONS:
1. SURVEY AND MARK BOUNDARIES, ACCESS NO GO ZONES, TREE PROTECTION ZONES (IF REQUIRED), DIVERSION DRAINS, LAYDOWN AREAS, SITE PARKING AREAS, AND SITE OFFICE ZONES.
 2. PREPARE AND CONSTRUCT STABILISED SITE CONSTRUCTION ENTRY'S.
 3. INSTALL ALL PRELIMINARY EROSION & SEDIMENT CONTROL MEASURES. MINIMUM ITEMS INCLUDE PERIMETER SILT FENCES, ANY SECURITY FENCING, NO GO ZONES, DIVERSION DRAINS AND SITE AREAS.
 4. INSTALL ALL DIVERSION DRAINS.
 5. PREPARE AND CONSTRUCT SEDIMENT BASINS.

SEDIMENT CONTROL BASIN NOTES:

FOR SEDIMENT & EROSION CONTROL DETAILS REFER TO DRAWING C013904.03-SSDA250.

SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION, MANAGING URBAN STORMWATER-THE BLUE BOOK'.

SEDIMENT BASIN 1:

CATCHMENT AREA = 1.49ha
REQUIRED BASIN VOLUME = 360m³
BASE DIMENSION (LxB) = 8.0m x 15.0m
TOP DIMENSION (LxB) = 17.0m x 24.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 1.5m
PROVIDED BASIN VOLUME = 375m³

SEDIMENT BASIN 2:

CATCHMENT AREA = 2.53ha
REQUIRED BASIN VOLUME = 611m³
BASE DIMENSION (LxB) = 12.0m x 20.0m
TOP DIMENSION (LxB) = 21.0m x 29.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 1.5m
PROVIDED BASIN VOLUME = 616m³

SEDIMENT BASIN 4:

CATCHMENT AREA = 3.46ha
REQUIRED BASIN VOLUME = 836m³
BASE DIMENSION (LxB) = 15.0m x 24.0m
TOP DIMENSION (LxB) = 24.0m x 33.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 1.5m
PROVIDED BASIN VOLUME = 843m³

SEDIMENT BASIN 5:

CATCHMENT AREA = 6.48ha
REQUIRED BASIN VOLUME = 1565m³
BASE DIMENSION (LxB) = 25.0m x 31.0m
TOP DIMENSION (LxB) = 34.0m x 40.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 1.5m
PROVIDED BASIN VOLUME = 1581m³

SEDIMENT BASIN 3:

CATCHMENT AREA = 1.73ha
REQUIRED BASIN VOLUME = 418m³
BASE DIMENSION (LxB) = 10.0m x 15.0m
TOP DIMENSION (LxB) = 19.0m x 24.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 1.5m
PROVIDED BASIN VOLUME = 434m³

SEDIMENT BASIN 6:

CATCHMENT AREA = 6.62ha
REQUIRED BASIN VOLUME = 1599m³
BASE DIMENSION (LxB) = 26.0m x 31.0m
TOP DIMENSION (LxB) = 35.0m x 40.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 1.5m
PROVIDED BASIN VOLUME = 1634m³

SEDIMENT BASIN 7:

CATCHMENT AREA = 1.96ha
REQUIRED BASIN VOLUME = 573m³
BASE DIMENSION (LxB) = 11.0m x 16.0m
TOP DIMENSION (LxB) = 20.0m x 25.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 1.5m
PROVIDED BASIN VOLUME = 486m³

SEDIMENTATION BASINS TO COLLECT RUN-OFF IN EXTREME RAINFALL EVENTS. COLLECTED RUN-OFF TO BE ASSESSED BY A QUALIFIED LABORATORY FOR DOUSING RATES OF ALUM OR GYPSUM TO ENSURE COAGULATION OF SEDIMENTS PRIOR TO WATER BEING DISCHARGED TO COUNCIL STORMWATER SYSTEM.

EACH BASIN IS TO HAVE A MARKER PLACED AS PER THE DETAIL TO INDICATE WHEN SEDIMENT IS TO BE REMOVED. REMOVED SEDIMENT IS TO BE CLASSSED AND DEWATERED PRIOR TO REMOVAL FROM SITE.

ALLOWANCE TO BE MADE DURING BENCHING OF SITE TO ENSURE RUN-OFF IS DIRECTED TO SEDIMENTATION BASINS.

NOTES:

1. ASSUME TYPE D SOIL (CLAY/SILTY CLAY)
 2. ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)
 3. $C_v = 0.50$ & LENGTH TO WIDTH RATIO OF 2 (MIN.)
- SOIL TYPE TO BE ASSESSED BY A GEOTECHNICAL ENGINEER

LEGEND:

PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS. TYPICAL (N.S.O.P.)

- DENOTES DIVERSION DRAIN
- DENOTES CLEAN WATER DIVERSION DRAIN
- DENOTES SILT FENCE WITH CATCH DRAIN
- DENOTES SILT FENCE ONLY
- DENOTES CONSTRUCTION ENTRY
- DENOTES OVERLAND FLOW PATH
- DENOTES NOMINAL STOCKPILE LOCATION.

NOTES:

REFER TO DRAWING SSDA200 FOR DETAILED EROSION AND SEDIMENT CONTROL NOTES.

15m 0 15 30 45 60 75 90 105 120 135 150m
SCALE 1:1500 AT B1 SIZE SHEET

FOR SSDA

ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	05.08.24	E
REVISED AS CLOUDED	20.06.24	D
REVISED AS CLOUDED	08.03.24	C
REVISED AS CLOUDED	10.07.23	B
ISSUED FOR INFORMATION	30.06.23	A
AMENDMENTS	DATE	ISSUE

ARCHITECT
LOGOS

PACE
ARCHITECTS

CLIENT

LOGOS

PROJECT
PROPOSED WAREHOUSE DISTRIBUTION
AUGUSTA STREET, HUNTINGWOOD EAST, NSW 2148

DESIGNED	DRAWN	DATE	CHECKED	SIZE	SCALE	CAD REF:
LDV	JB	JUNE '22	MW	B1	AS SHOWN	C013904.03-SSDA201

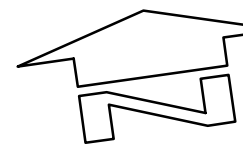
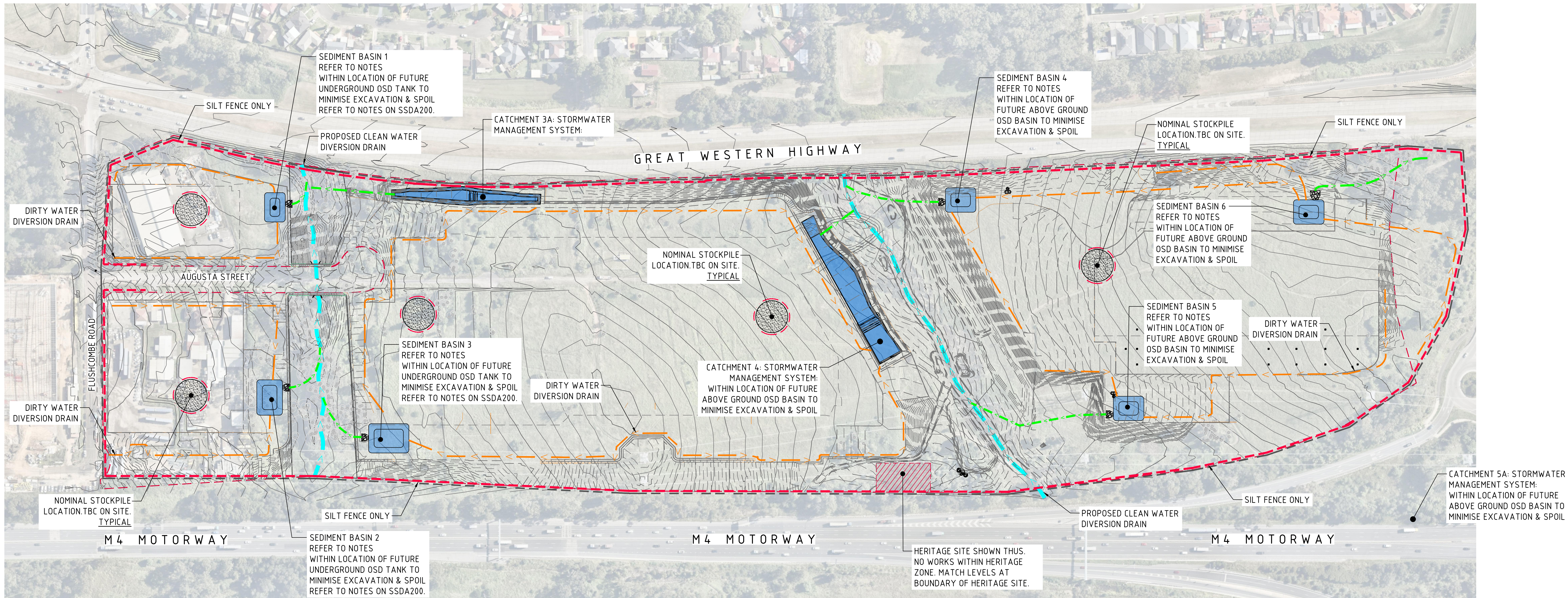
CONSULT AUSTRALIA

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

CRC
COSTIN ROE
CONSULTING

**CIVIL &
STRUCTURAL
ENGINEERS**

DRAWING TITLE	EROSION AND SEDIMENT CONTROL PLAN STAGE 1
DRAWING No	C013904.03-SSDA201
ISSUE	E



EROSION AND SEDIMENT CONTROL PLAN - STAGE 2

SCALE 1:1500

STAGING NOTES - STAGE 2:

- STAGE 2 REPRESENTS WORKS FOLLOWING SITE ESTABLISHMENT INCLUDING SITE STRIPPING & GRUBBING, AND COMMENCEMENT OF EARTHWORKS.
- STAGE 2 IMPLEMENTATION RECOMMENDATIONS:
1. PREPARE AND CONSTRUCT SEDIMENT BASIN.
 2. ADJUST DIVERSION DRAINS TO ENSURE ALL RUNOFF IS DIRECTED TO BASIN. CHECK AND CONFIRM ON SITE FOR ANY CONTOURS OR DRAINAGE LINES NOT SHOWN ON THE ESCP AND ALLOW FOR THEM ON SITE AS REQUIRED.
 3. ESTABLISH SITE COMPOUND INCLUDING OFFICE AND PARKING AREAS.
 4. ENSURE ESCP MEASURES SHOWN ON PLAN ARE INSTALLED, AND EXISTING MEASURES ARE CHECKED AND MAINTAINED AS REQUIRED.
 5. COMMENCE SITE STRIPPING (LIMIT TO AREA OF WORKS AS NECESSARY TO COMPLETE THE WORKS) AND CUT TO FILL EARTHWORK.
 6. MONITOR AND INSPECT MEASURES IN ACCORDANCE WITH THE SITE INSPECTION CHECK SHEETS AND SOIL AND WATER MANAGEMENT PLAN INCLUDED IN THE SITE CEMP.
 7. ALL CONTROLS TO BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD, AND PROGRESSIVELY ADJUSTED TO SUIT SITE CONDITIONS IN ACCORDANCE WITH THE CEMP, THE SOIL AND WATER MANAGEMENT PLAN (SUBPLAN OF THE CEMP) AND PER BLUE BOOK/ WHITE BOOK REQUIREMENTS.

SEDIMENT CONTROL BASIN NOTES:

FOR SEDIMENT & EROSION CONTROL DETAILS REFER TO DRAWING C013904.03-SSDA250.

SEDIMENTATION BASIN SIZING BASED ON RECOMMENDATIONS OF 'SOILS AND CONSTRUCTION, MANAGING URBAN STORMWATER-THE BLUE BOOK'.

SEDIMENT BASIN 1:

CATCHMENT AREA = 1.49ha
REQUIRED BASIN VOLUME = 360m³
BASE DIMENSION (LxB) = 8.0m x 15.0m
TOP DIMENSION (LxB) = 17.0m x 24.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 1.5m
PROVIDED BASIN VOLUME = 375m³

SEDIMENT BASIN 2:

CATCHMENT AREA = 2.53ha
REQUIRED BASIN VOLUME = 611m³
BASE DIMENSION (LxB) = 12.0m x 20.0m
TOP DIMENSION (LxB) = 21.0m x 29.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 1.5m
PROVIDED BASIN VOLUME = 616m³

SEDIMENT BASIN 3:

CATCHMENT AREA = 3.46ha
REQUIRED BASIN VOLUME = 836m³
BASE DIMENSION (LxB) = 15.0m x 24.0m
TOP DIMENSION (LxB) = 24.0m x 33.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 1.5m
PROVIDED BASIN VOLUME = 843m³

SEDIMENT BASIN 4:

CATCHMENT AREA = 1.96ha
REQUIRED BASIN VOLUME = 473m³
BASE DIMENSION (LxB) = 9.0m x 20.0m
TOP DIMENSION (LxB) = 18.0m x 29.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 1.5m
PROVIDED BASIN VOLUME = 504m³

SEDIMENT BASIN 5:

CATCHMENT AREA = 2.89ha
REQUIRED BASIN VOLUME = 698m³
BASE DIMENSION (LxB) = 12.0m x 24.0m
TOP DIMENSION (LxB) = 21.0m x 33.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 1.5m
PROVIDED BASIN VOLUME = 714m³

SEDIMENT BASIN 6:

CATCHMENT AREA = 1.23ha
REQUIRED BASIN VOLUME = 297m³
BASE DIMENSION (LxB) = 6.0m x 14.0m
TOP DIMENSION (LxB) = 15.0m x 23.0m
MAX SIDE SLOPE = 1V:3H
DEPTH = 1.5m
PROVIDED BASIN VOLUME = 300m³

SEDIMENTATION BASINS TO COLLECT RUN-OFF IN EXTREME RAINFALL EVENTS. COLLECTED RUN-OFF TO BE ASSESSED BY A QUALIFIED LABORATORY FOR DOUSING RATES OF ALUM OR GYPSUM TO ENSURE COAGULATION OF SEDIMENTS PRIOR TO WATER BEING DISCHARGED TO COUNCIL STORMWATER SYSTEM.

EACH BASIN IS TO HAVE A MARKER PLACED AS PER THE DETAIL TO INDICATE WHEN SEDIMENT IS TO BE REMOVED. REMOVED SEDIMENT IS TO BE CLASSED AND DEWATERED PRIOR TO REMOVAL FROM SITE.

ALLOWANCE TO BE MADE DURING BENCHING OF SITE TO ENSURE RUN-OFF IS DIRECTED TO SEDIMENTATION BASINS.

NOTES:

1. ASSUME TYPE D SOIL (CLAY/SILTY CLAY)
 2. ASSUME GROUP D SOIL (HIGH PLASTICITY AND SHRINK/SWELL PROPERTIES)
 3. $C_v = 0.50$ & LENGTH TO WIDTH RATIO OF 2 (MIN.)
- SOIL TYPE TO BE ASSESSED BY A GEOTECHNICAL ENGINEER

LEGEND:

PROVIDE 1m RETURNS TO SILT FENCE AT 30m MAX. INTERVALS. TYPICAL (N.S.O.P.)

- DENOTES DIVERSION DRAIN
- DENOTES CLEAN WATER DIVERSION DRAIN
- DENOTES PROPOSED CLEAN WATER DIVERSION DRAIN
- DENOTES SILT FENCE WITH CATCH DRAIN
- DENOTES SILT FENCE ONLY
- DENOTES CONSTRUCTION ENTRY
- DENOTES OVERLAND FLOW PATH
- DENOTES NOMINAL STOCKPILE LOCATION.

NOTES:

REFER TO DRAWING SSDA200 FOR DETAILED EROSION AND SEDIMENT CONTROL NOTES.

15m 0 15 30 45 60 75 90 105 120 135 150m
SCALE 1:1500 AT B1 SIZE SHEET

FOR SSDA

ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	05.08.24	E			
REVISED ARCHITECTURAL	08.03.24	D			
REVISED ARCHITECTURAL	10.09.23	C			
REVISED AS CLOUDED	10.07.23	B			
ISSUED FOR INFORMATION	30.06.23	A			
AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE



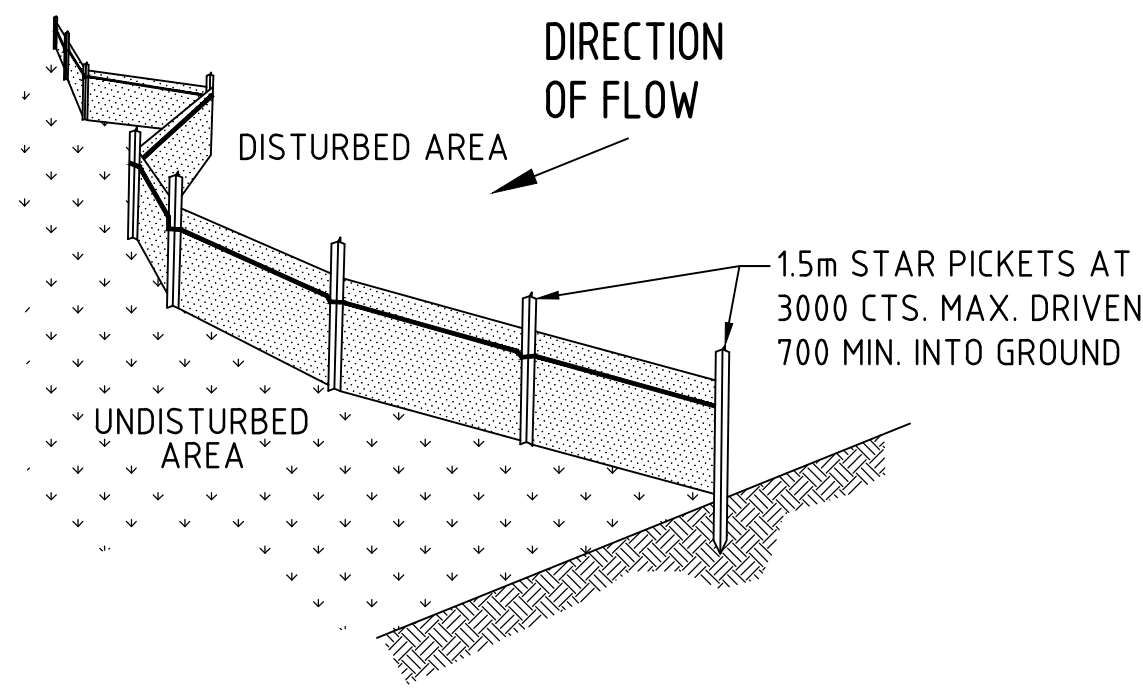
PROJECT	PROPOSED WAREHOUSE DISTRIBUTION
DESIGNED	LDV
DRAWN	JB
DATE	JUNE '22
CHECKED	MW
SIZE	B1
SCALE	AS SHOWN
CAD REF:	C013904.03-SSDA202



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



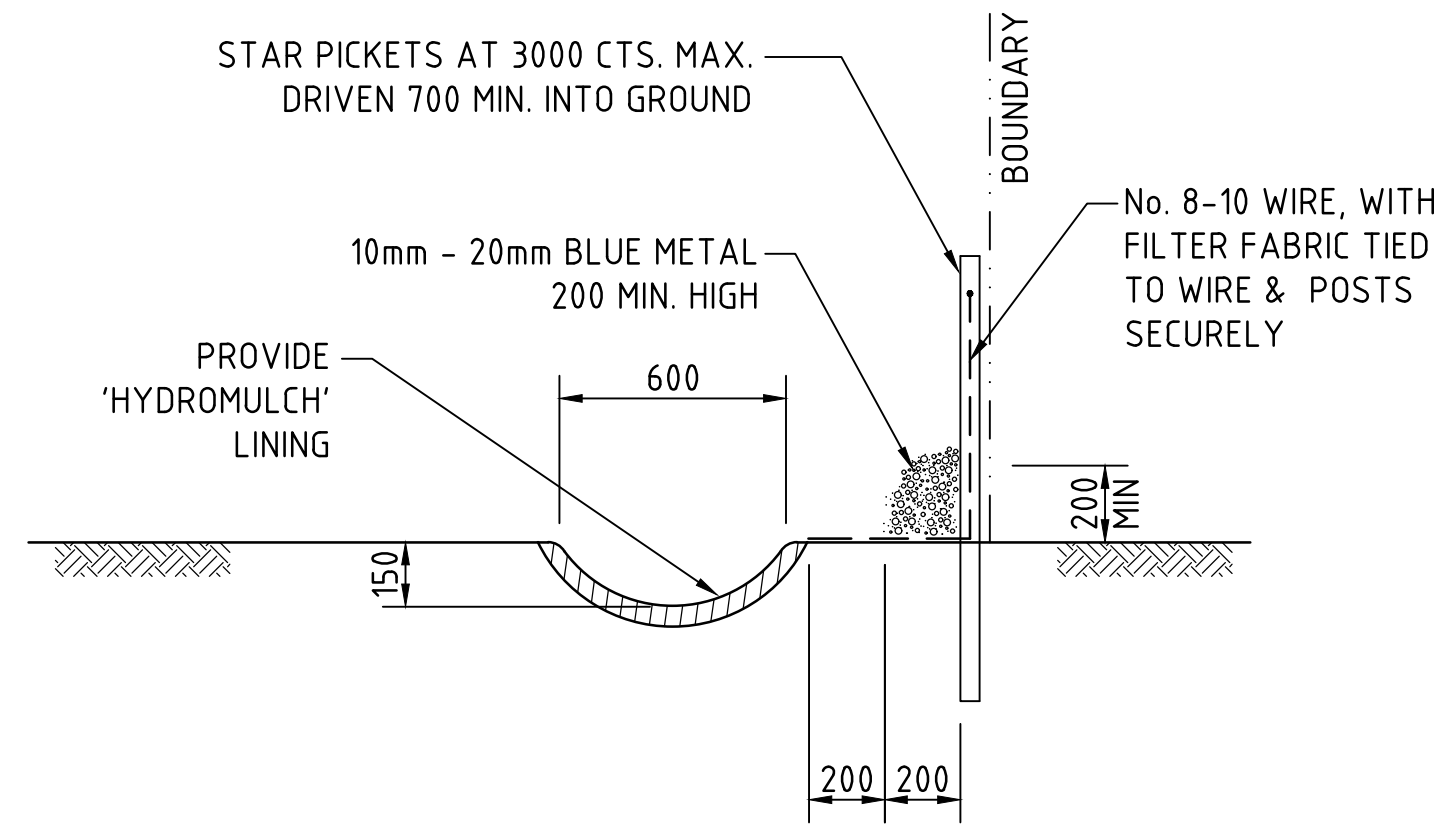
DRAWING TITLE	EROSION AND SEDIMENT CONTROL PLAN
	STAGE 2
DRAWING No	C013904.03-SSDA202
ISSUE	E



TYPICAL SILT FENCE DETAIL

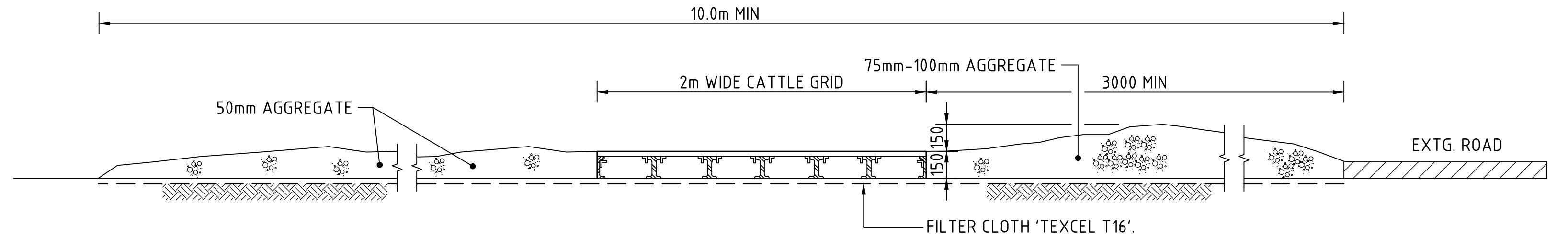
N.T.S

NOTE: PROVIDE 1m RETURNS AT 30m INTERVALS. TYPICAL



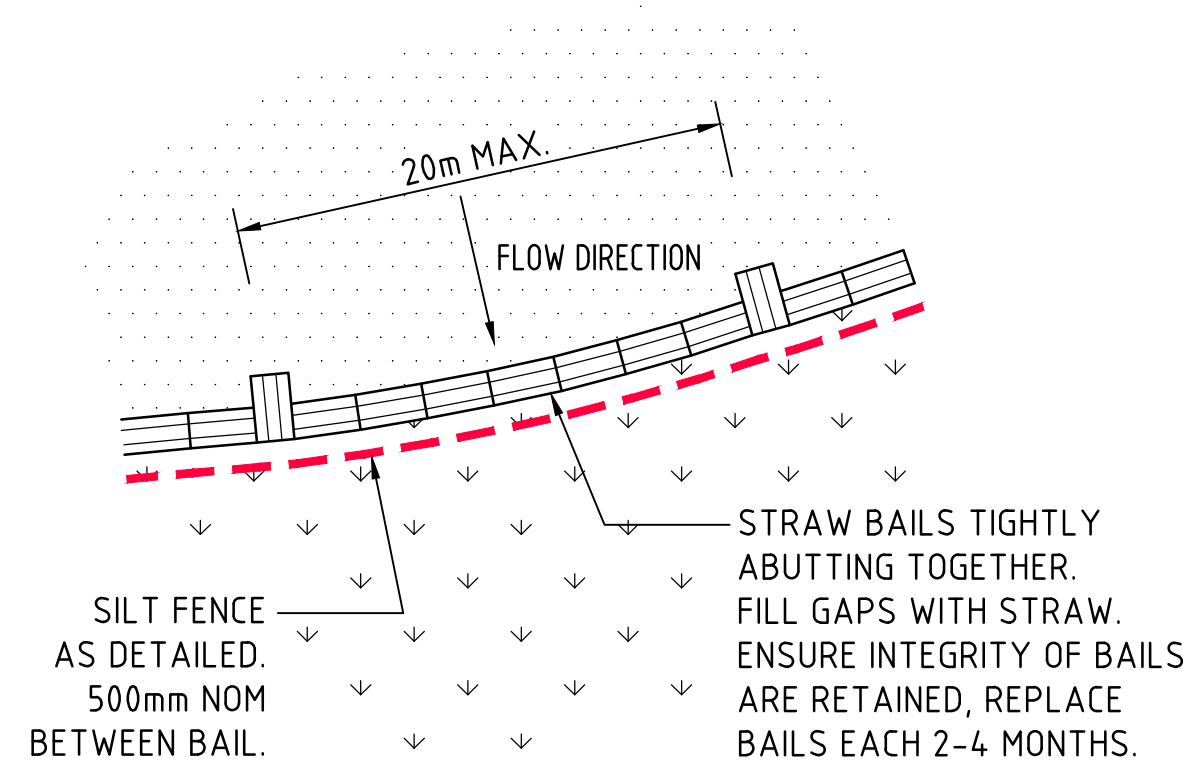
TYPICAL OPEN DRAIN & SILT FENCE

SCALE 1:20



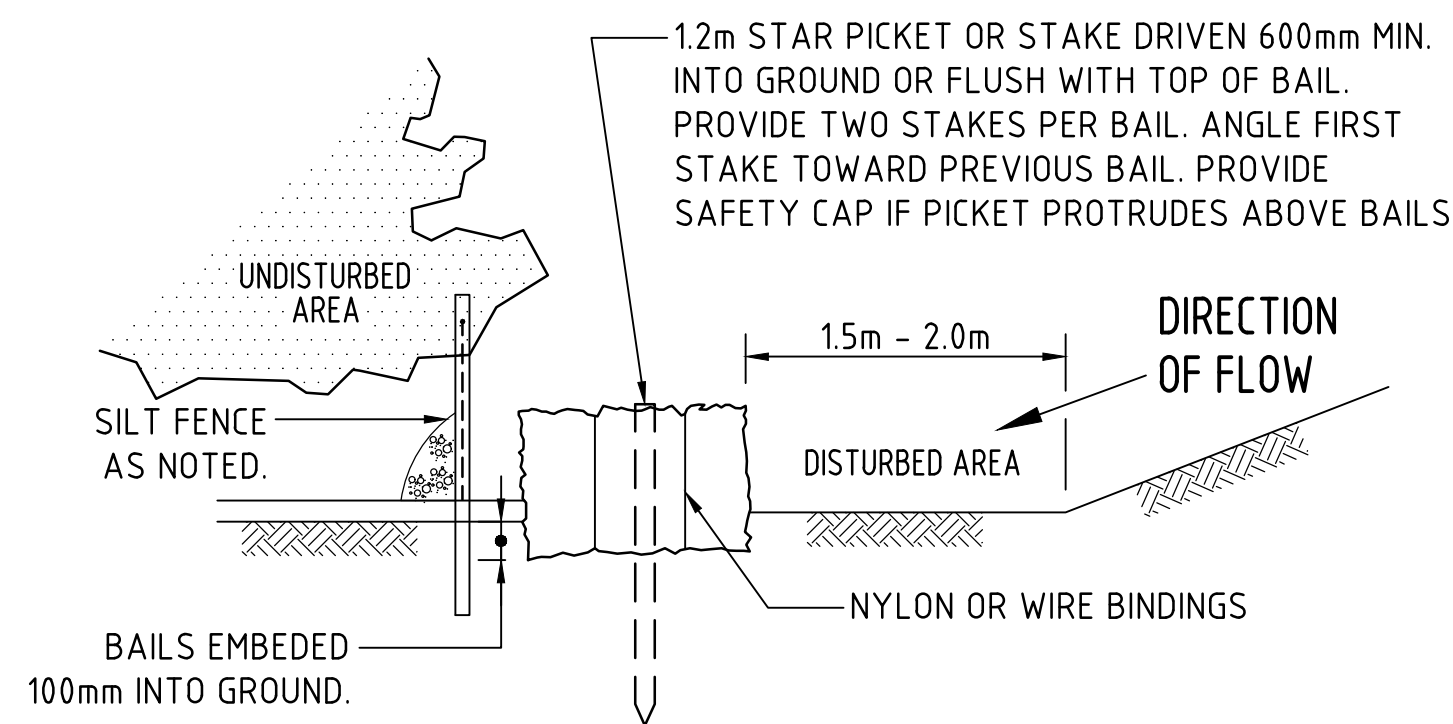
SECTION 1: STABILISED CONSTRUCTION ENTRANCE 'TRUCK SHAKER'

C200



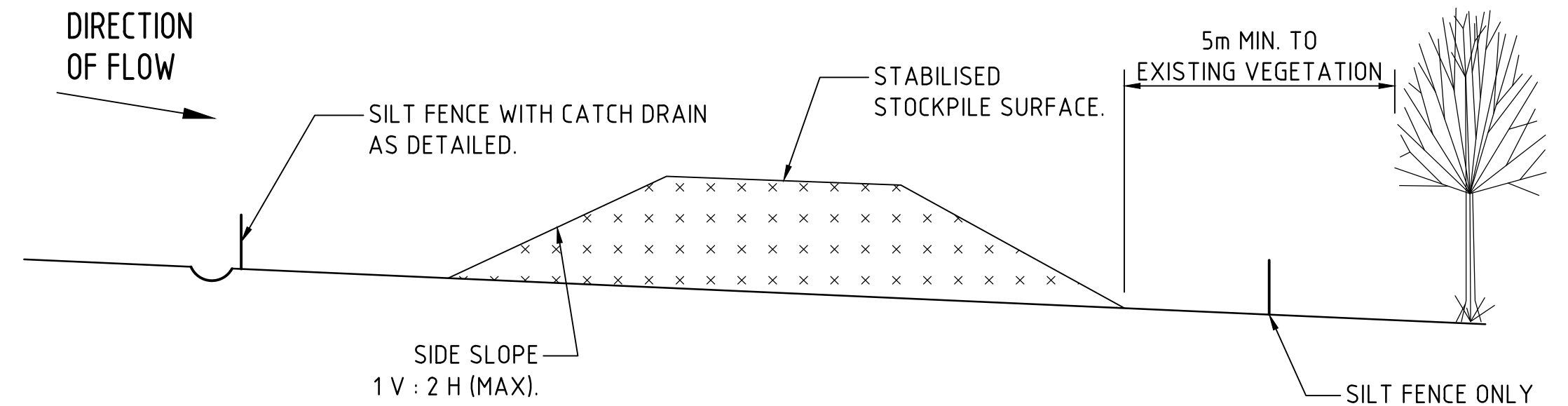
SILT FENCE WITH HAY BAIL PLAN

N.T.S



SILT FENCE WITH HAY BAIL DETAIL

N.T.S

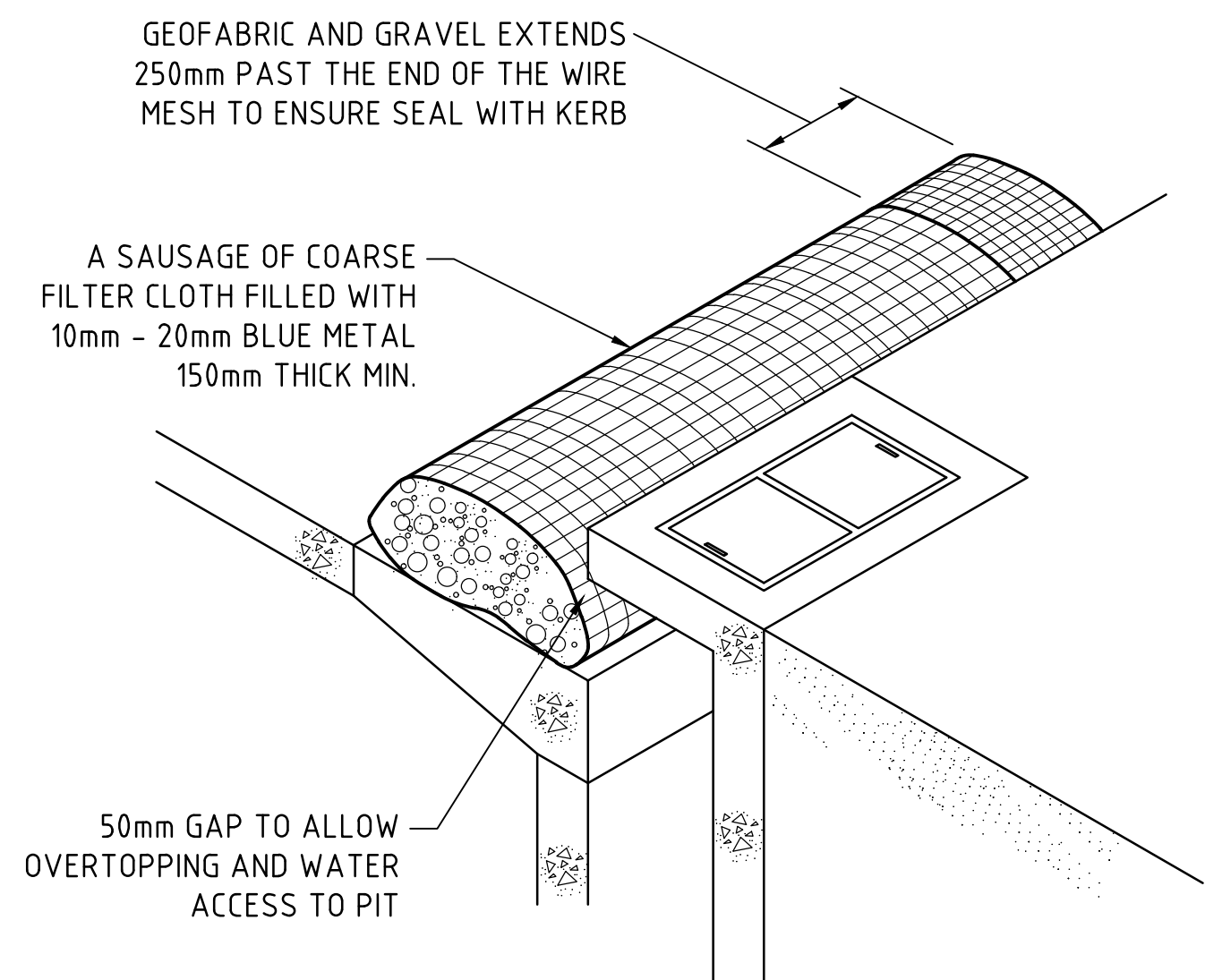


TYPICAL STOCKPILE DETAIL

N.T.S

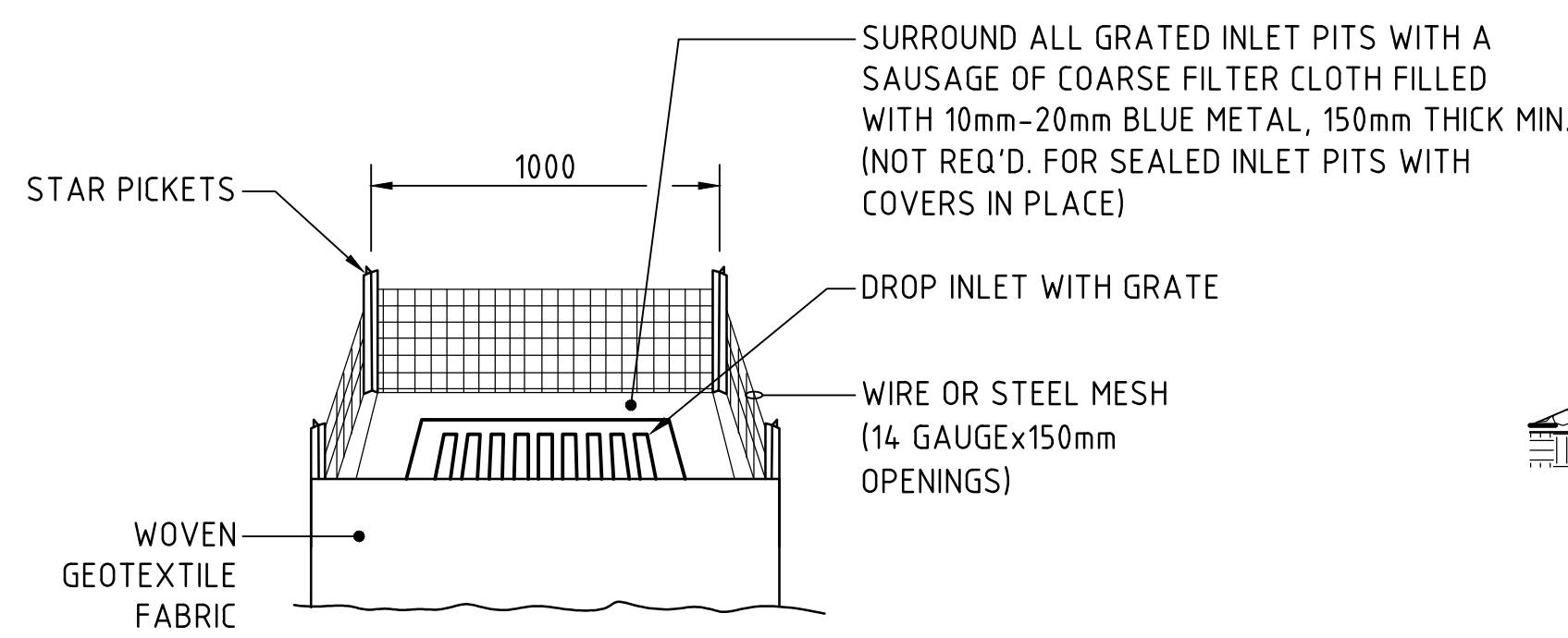
STOCKPILE NOTES

1. PLACE ALL STOCKPILES IN LOCATIONS MORE THAN 5m FROM EXISTING VEGETATION, ROADS & HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT ELONGATED MOUNDS. SIDE SLOPE TO BE 1 V: 2 H MAX.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2m IN HEIGHT.
4. WHERE STOCKPILES ARE TO BE IN PLACE FOR MORE THAN 10 DAYS, STABILISE USING WOOD CHIP MULCH - 16 TONNE/Ha.
5. CONSTRUCT SILT-FENCE WITH CATCH DRAIN ON UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES & SILT FENCE ONLY 1 TO 2m DOWNSLOPE AS SHOWN.



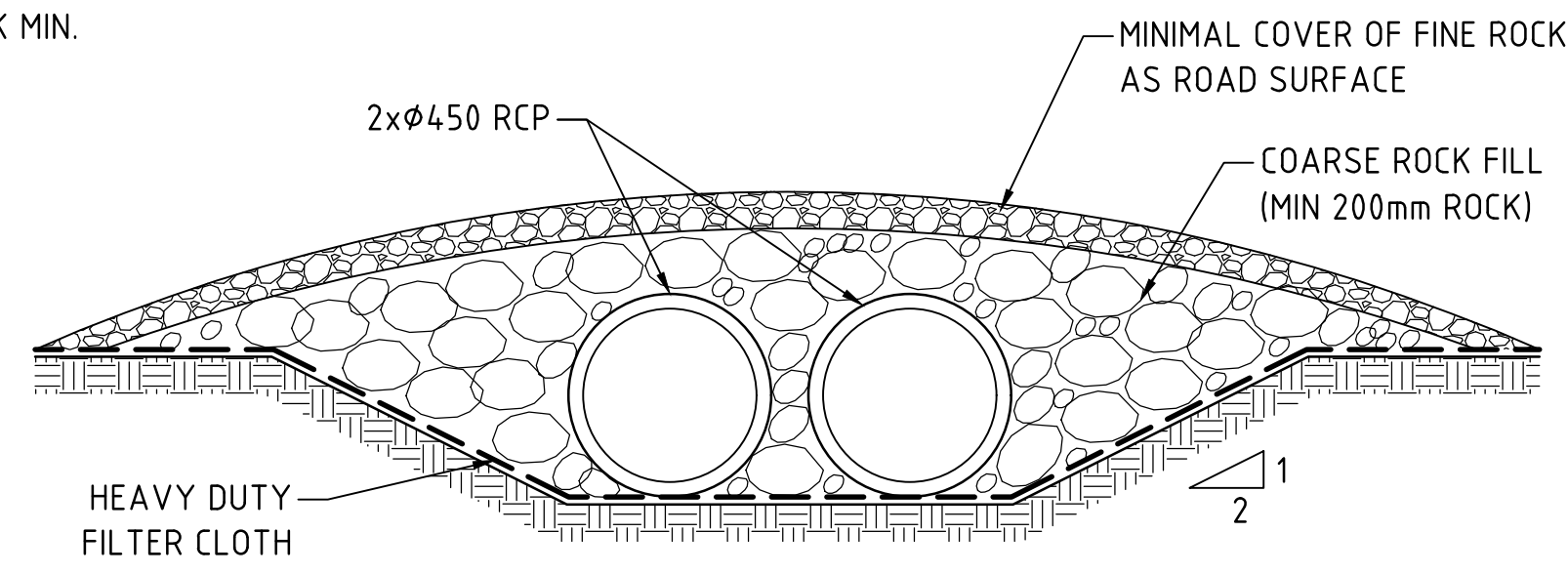
KERB INLET CONTROL

N.T.S



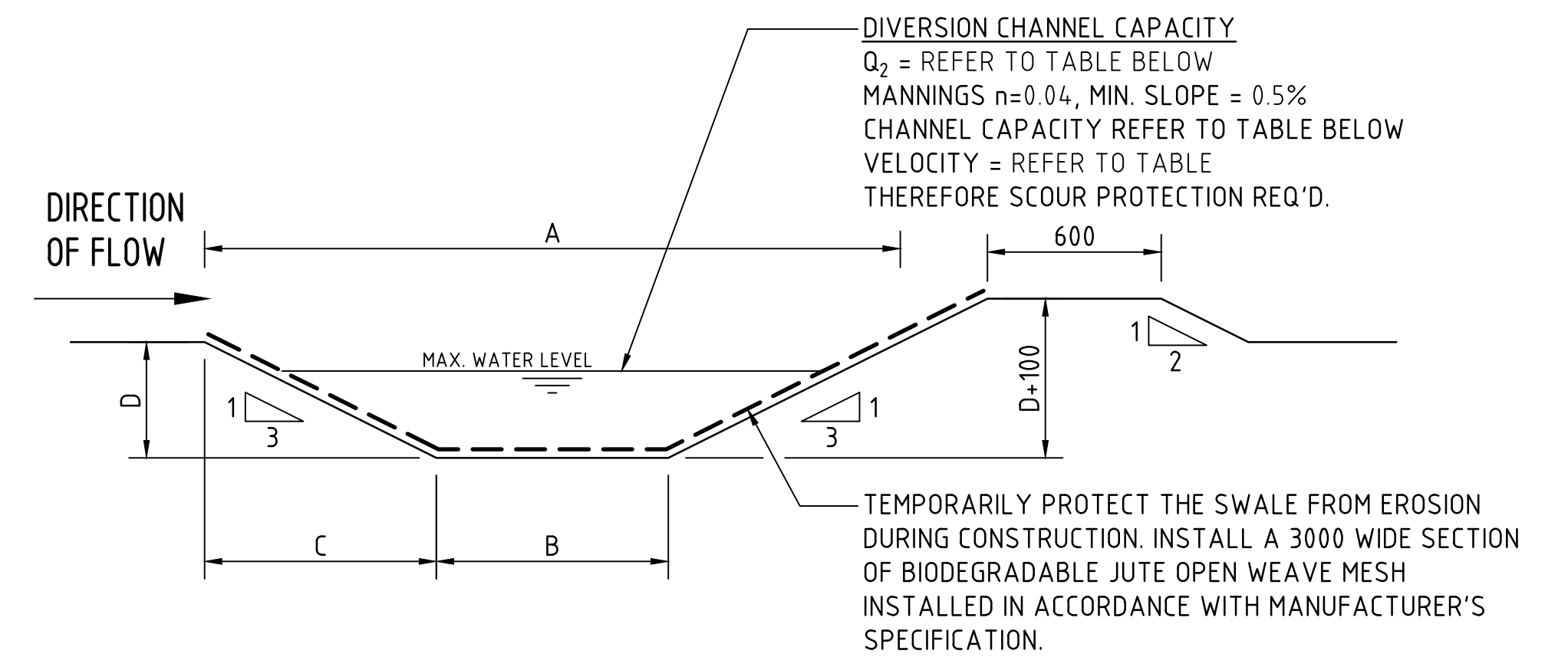
GRADED INLET PIT FILTER DETAIL

N.T.S



TYPICAL CROSSING OVER DIVERSION CHANNEL

SCALE 1:20



DIVERSION DRAIN SECTION

SCALE 1:20

DIVERSION DRAIN SCHEDULE

CATCHMENT (Ha)	Q ₂ (l/s)	MANNINGS (n)	MIN SLOPE (%)	DIM 'A' (m)	DIM 'B' (m)	DIM 'C' (m)	DIM 'D' (m)	CHANNEL CAPACITY (l/s + 10% FREEBOARD)	VELOCITY (m/s)	SCOUR PROTECTION REQUIRED
C1 - 1.80Ha	78.96	0.04	0.50	2.40	0.30	1.05	0.35	274.093	0.548	NO
C2 - 3.15Ha	114.16	0.04	0.50	2.40	0.30	1.05	0.35	274.093	0.548	NO
C3A - 1.30Ha	133.97	0.04	0.50	2.40	0.30	1.05	0.35	274.093	0.548	NO
C3B - 3.50Ha	163.02	0.04	0.50	2.40	0.30	1.05	0.35	274.093	0.548	NO
C4 - 8.00Ha	260.43	0.04	0.50	2.60	0.50	1.05	0.35	274.093	0.572	NO
C5A - 7.30Ha	257.03	0.04	0.50	2.60	0.50	1.05	0.35	274.093	0.572	NO
C5B - 2.00Ha	109.62	0.04	0.50	2.40	0.30	1.05	0.35	274.093	0.548	NO

NOTE :
ADOPT ABOVE DETAILS AROUND ALL PITS WITHIN AREA ENCOMPASSED BY SILT FENCE & TO PITS ON THE ROAD ADJACENT TO SITE BOUNDARY.

200mm 0 500 1000 1500 2000mm
SCALE 1:20 AT B1 SIZE SHEET

FOR SSDA

ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	02.08.24	C
ISSUED FOR INFORMATION	30.06.23	B
ISSUED FOR INFORMATION	16.06.23	A
AMENDMENTS	DATE	ISSUE

ARCHITECT	PACE ARCHITECTS
-----------	---------------------------

CLIENT	LOGOS
--------	--------------

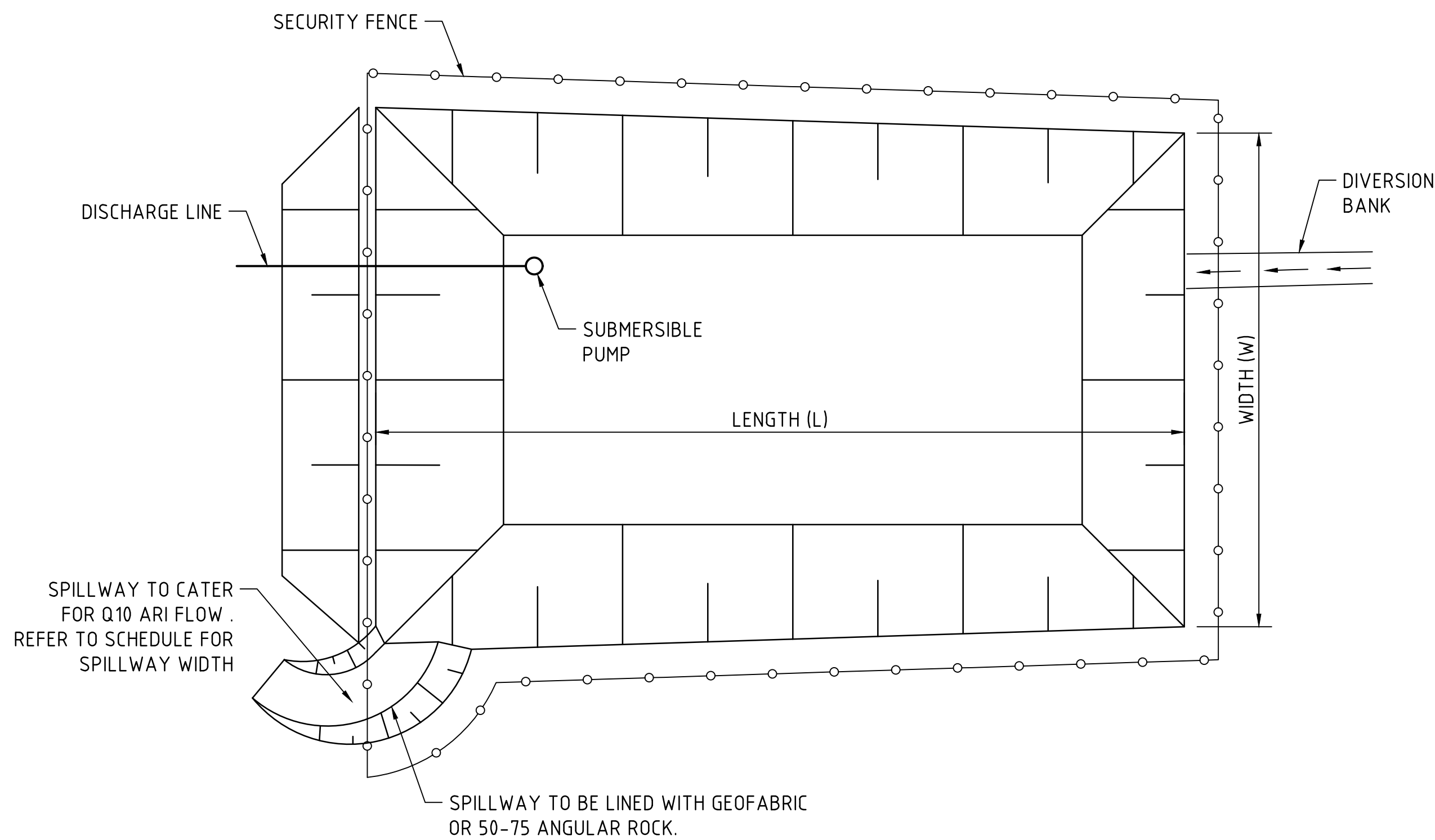
PROJECT	PROPOSED WAREHOUSE DISTRIBUTION AUGUSTA STREET, HUNTINGWOOD EAST, NSW 2148
DESIGNED	LDV
DRAWN	JB
DATE	JUNE '22
CHECKED	MW
SIZE	B1
SCALE	AS SHOWN
CAD REF:	C013904.03-SSDA250

CONSULT AUSTRALIA

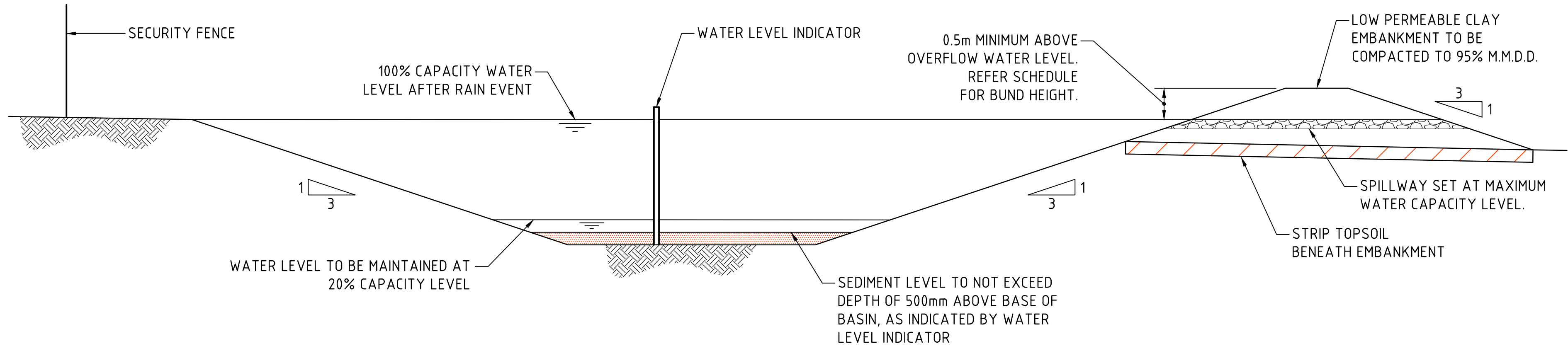
Costin Roe Consulting Pty Ltd. ABN 50 003 696 446
PO Box N419 Sydney NSW 1220 Level 4, 8 Windmill Street, Millers Point NSW 2000 p: +61 2 9251 7699 e: mail@costinroe.com.au
Level 4, 8 Windmill Street, Millers Point NSW 2000 t: +61 2 9241 3731 w: costinroe.com.au

CRC COSTIN ROE CONSULTING	CIVIL & STRUCTURAL ENGINEERS
-------------------------------------	---

DRAWING TITLE	EROSION AND SEDIMENT CONTROL DETAILS SHEET 1
DRAWING No	C013904.03-SSDA250
ISSUE	C

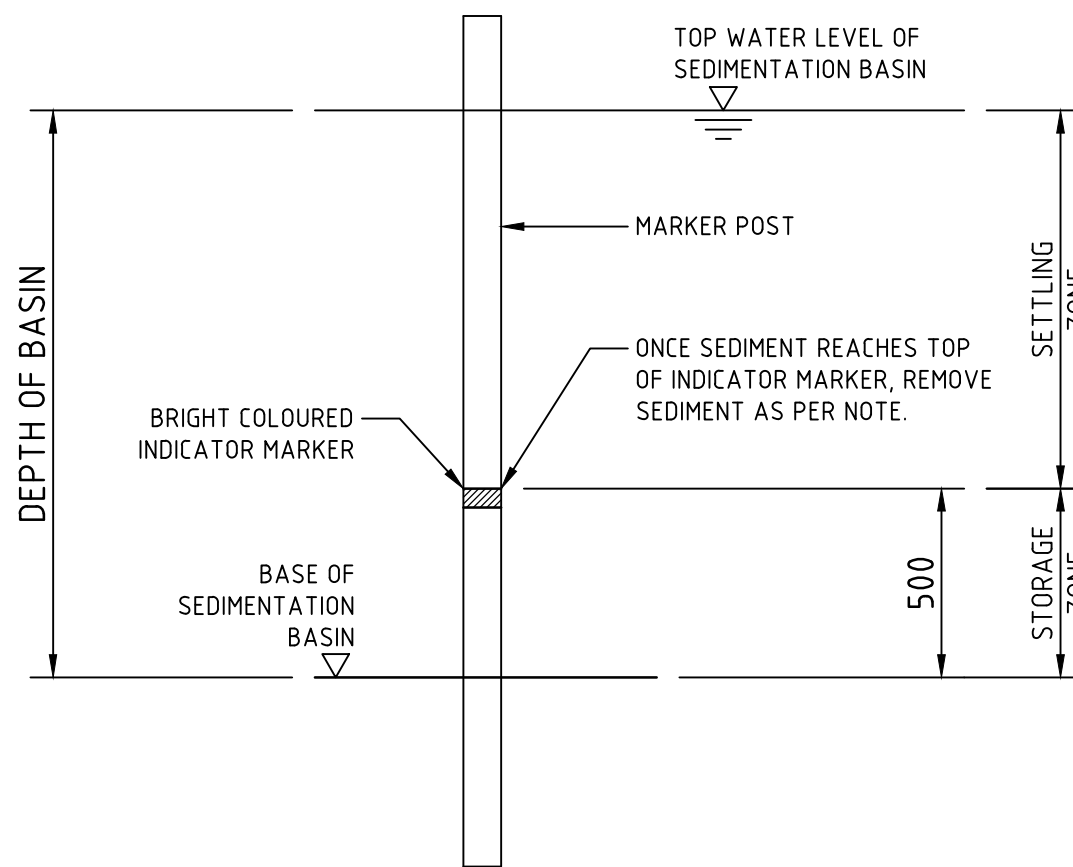


TYPICAL SEDIMENT CONTROL POND PLAN
SCALE 1:250

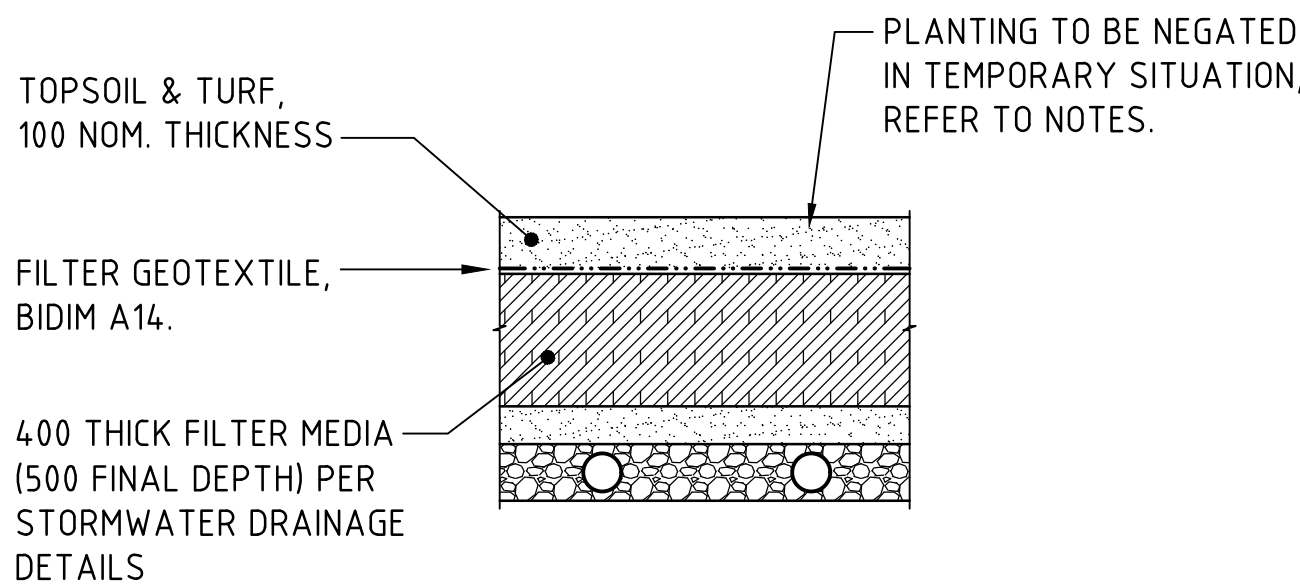


TYPICAL SEDIMENT CONTROL BASIN SECTION
SCALE 1:50

SPILLWAY DETAIL & SCHEDULE					
CATCHMENT (Ha)	FLOW (m³/s)	WIDTH (mm)	FLOW DEPTH (mm)	ROCK SIZE (mm)	BUND HEIGHT ABOVE SPILLWAY (mm)
0.20	0.14	1000	200	-	600
0.5	0.2	2000	200	-	600
1	0.3	2000	200	-	700
2	0.6	4000	200	-	700
5	1.4	5000	300	200	800
10	2.8	8000	350	200	850
20	5.5	14000	400	250	900
40	11.0	20000	500	250	1000



SEDIMENT STORAGE MARKER
SCALE 1:20

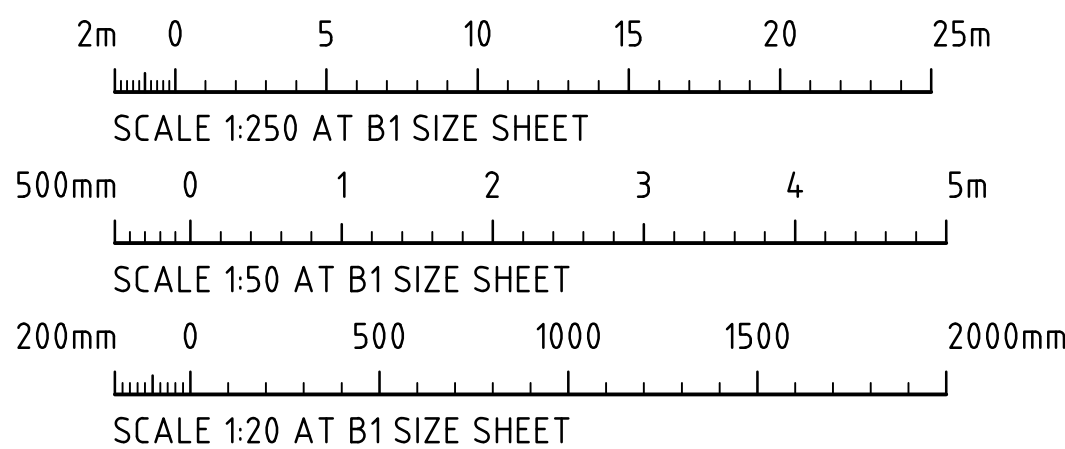


TEMPORARY BIO-RETENTION PROTECTION DETAIL
SCALE 1:20

TEMPORARY CONSTRUCTION REQUIREMENT DETAIL - PROVIDE 100mm TOPSOIL AND TEMPORARY EROSION PROTECTION (JUTEMASTER OR EQUIV) TO SWALE BATTER SLOPES AND ADJACENT LANDSCAPED AREAS. NOTE THAT NO TOPSOIL IS TO BE PLACED OVER FILTRATION MEDIA. PROVIDE SILT FENCE TO TOP OF BANK UNTIL SUCH TIME AS THIS STABILISING AND VEGETATION HAS BEEN COMPLETED.

BIO-RETENTION TO BE PARTIALLY INSTALLED, FOLLOWING COMPLETION OF EARTHWORKS, WITH THE TOP 75-100mm OF FILTER MEDIA REPLACED WITH A FINE TO COARSE SAND UNDERLAIN WITH A GEOTEXTILE LAYER (PER ABOVE DETAIL). FOLLOWING COMPLETION OF THE UPSTREAM DEVELOPMENT AND SITE STABILISATION, THE SAND IS TO BE REMOVED, REPLACED WITH FILTER MATERIAL AND PLANTED OUT. REFER TO BIO-RETENTION NOTES ON DRAWING [C013904.03-SSDA454](#).

TEMPORARY BIO-RETENTION BASIN PROTECTION DETAILS



FOR SSDA

ISSUED FOR STATE SIGNIFICANT DEVELOPMENT APPLICATION	02.08.24	C			
ISSUED FOR INFORMATION	30.06.23	B			
ISSUED FOR INFORMATION	16.06.23	A			
AMENDMENTS	DATE	ISSUE	AMENDMENTS	DATE	ISSUE



PROJECT PROPOSED WAREHOUSE DISTRIBUTION AUGUSTA STREET, HUNTINGWOOD EAST, NSW 2148					
DESIGNED LDV	DRAWN JB	DATE JUNE '22	CHECKED MW	SIZE B1	SCALE AS SHOWN



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



DRAWING TITLE EROSION AND SEDIMENT CONTROL DETAILS SHEET 2	
DRAWING No C013904.03-SSDA251	ISSUE C