

STORMWATER SERVICES 6 & 7 KARA CRES, BAYVIEW

LINETYPES

	PROPOSED STORMWATER DRAINAGE
	EXISTING STORMWATER DRAINAGE
	PROPOSED SUB-SOIL DRAINAGE
	EXISTING SUB-SOIL DRAINAGE

SYMBOLS

	DOWNPIPE
	CLEAR OUT POINT
	RAIN WATER OUTLET
	PLANTER OUTLET
	OVERFLOW
	OVERLAND FLOW PATH
	PROPOSED TRENCH DRAIN
	PROPOSED STW PIT WITH GRATE
	PROPOSED STW PIT WITH COVER
	EXISTING KERB INLET PIT

STORMWATER NOTES

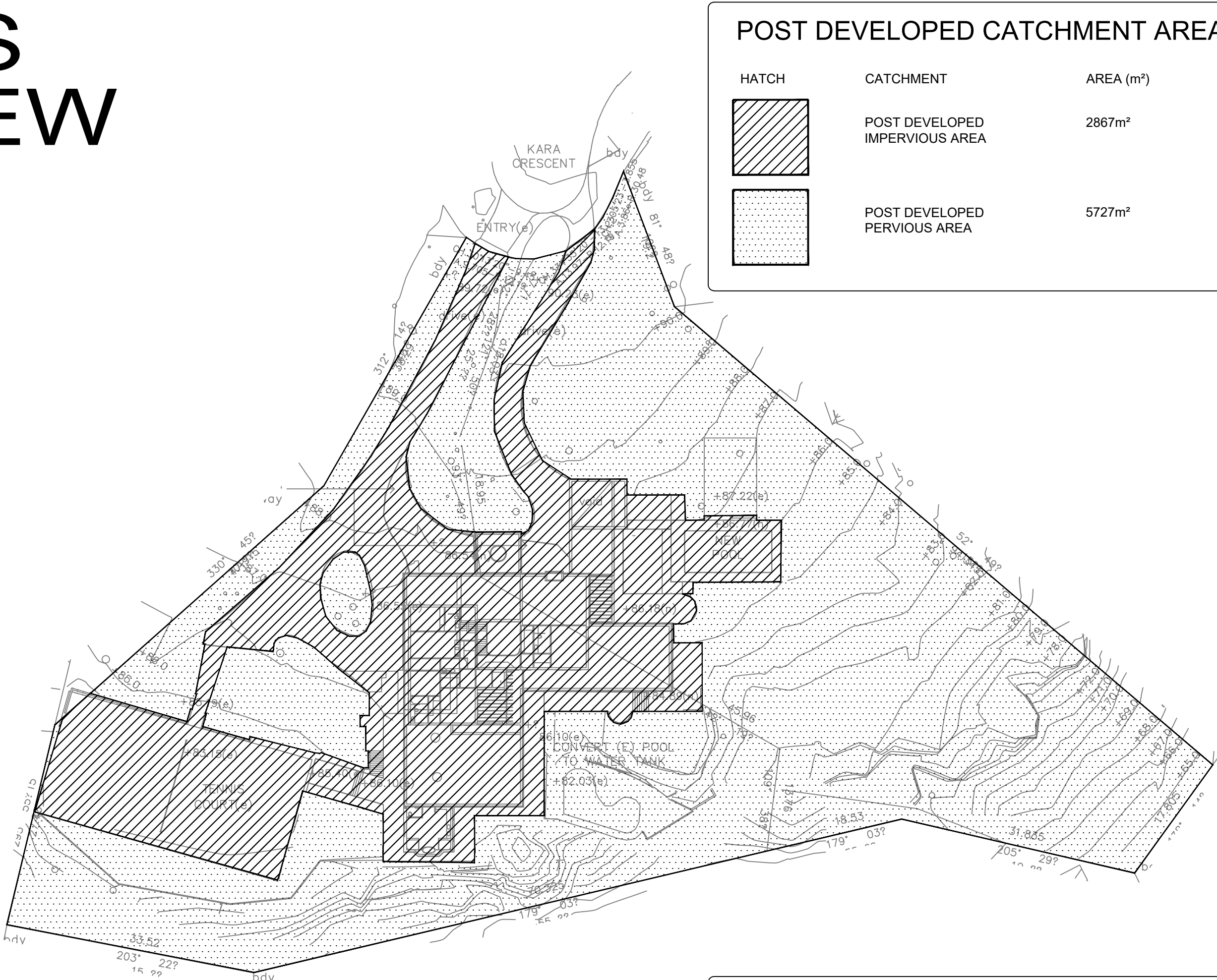
- CONFIRM LOCATION, SIZE, CONDITION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORK.
- ALL WORK TO BE IN ACCORDANCE WITH LOCAL AUTHORITIES REQUIREMENTS, BCA AND RELEVANT AUSTRALIAN STANDARDS (IN PARTICULARLY AS 3500)
- ALL DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL AND OTHER CONSULTANTS DOCUMENTS. ALL DISCREPANCIES SHALL BE REFERRED TO THE PROJECT MANAGER BEFORE PROCEEDING WITH THE WORK.
- LOCATION OF ALL DOWNPIPES, PITS AND PIPEWORK IS DIGRAMMATIC ONLY FINAL LOCATION TO BE CO-ORDINATED DURING CONSTRUCTION CERTIFICATE DOCUMENTATION.
- ALL MATERIALS USED IN THE WORK SHALL BE NEW AND OF THE BEST QUALITY AND TYPE AVAILABLE TO CONFORM WITH THE RELEVANT AUSTRALIAN STANDARDS AND BEAR THE REQUIRED STANDARDS MARK AND WATERMARK.
- MAKE ALL APPLICATIONS TO LOCAL COUNCIL. PAY ALL FEES AND OBTAIN ALL NECESSARY PERMITS AND APPROVALS AS REQUIRED BY THE AUTHORITIES.
- PIPEWORK UP TO 225mm DIAMETER SHALL BE UPVC DRAINAGE WASTE GRADE WITH SOLVENT WELDED JOINTS.
- PIPEWORK SHALL BE LAID AT 1:100 MINIMUM GRADE UNLESS NOTED OTHERWISE. PIPEWORK MAY BE LAID AT STEEPER GRADES AS REQUIRED TO MEET COVER REQUIREMENTS OR AS NOMINATED BY PIPEWORK INVERT LEVELS.
- SUBSOIL PIPEWORK SHALL BE INSTALLED AS REQUIRED, INCLUDING BEHIND ALL RETAINING STRUCTURES, PLANTERS AND WHERE GROUND WATER IS ENCOUNTED. SHALL BE 90mm SLOTTED UPVC PIPE WRAPPED IN CLOTH SOCK AND SURROUNDED WITH 150mm THICKNESS OF 20mm DIAMETER BLUE METAL AND SURROUNDED IN GEOTEXTILE FABRIC.
- ALL EXTERNAL LEVELS TO FALL AWAY FROM BUILDING. BUILDER TO ENSURE THRESHOLD REQUIREMENTS. OVERLAND FLOW PATHS TO BE MAINTAINED AROUND BUILDING TO PREVENT WATER INGRESS.
- ALL LANDSCAPED AREAS LOCATED ABOVE CONCRETE SLABS TO BE EQUIPPED WITH DEDICATED OUTLET, WATERPROOFING MEMBRANE, DRAINAGE CELL AND GEOTEXTILE FABRIC.
- SUBSOIL, UPLIFT PRESSURE, VERTICAL WALL DRAINAGE AND PIT CONSTRUCTION DETAILS TO BE CONFIRMED / CO-ORDINATED WITH STRUCTURAL AND GEOTECHNICAL ENGINEERS DURING CONSTRUCTION STAGE OF THE PROPOSED DEVELOPMENT.
- ALL BALCONIES TO BE PROVIDED WITH SAFETY OVERFLOWS (FINAL LOCATION OF OVERFLOWS TO BE CONFIRMED BY ARCHITECT).

DRAWING SCHEDULE

DWG No	DESCRIPTION
SW01	COVER SHEET
SW02	EROSION / SEDIMENT CONTROL PLAN
SW03	STORMWATER SERVICES SITE PLAN

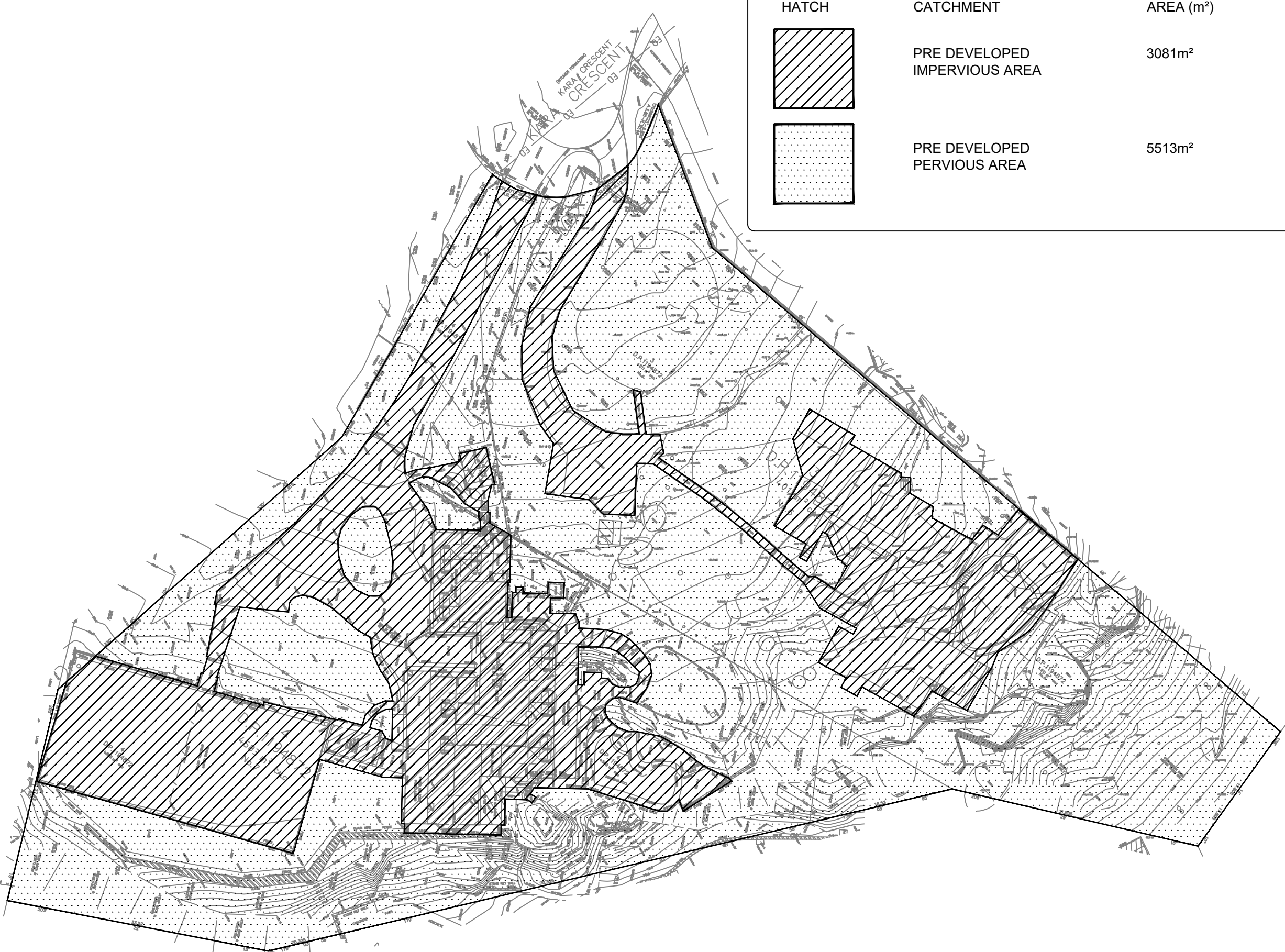
STORMWATER CALCULATIONS

ALL IN ACCORDANCE WITH NORTHERN BEACHES COUNCIL'S STORMWATER REQUIREMENTS.	
SITE IS LOCATED WITHIN REGION 1 NORTHERN CATCHMENT.	
SITE AREA:	8594m ²
EXISTING SITE IMPERVIOUS AREA:	3081m ² (35.8%)
DEVELOPED SITE IMPERVIOUS AREA:	2867m ² (33.3%)
DECREASE IN IMPERVIOUS AREA:	214m ²
NO INCREASE IN IMPERVIOUS AREA OSD NOT REQUIRED.	
BASIX RAINWATER TANK VOLUME:	5140L
DUE TO THE RURAL NATURE OF THE SITE THE INTENT OF THE DA STORMWATER CONCEPT DESIGN IS TO REPLICATE AND OR REUSE THE EXISTING STORMWATER SYSTEM. NO ADDITIONAL FLOWS ARE GENERATED BY THE PROPOSED DEVELOPMENT AS OUTLINED BY THE ABOVE CALCULATIONS. FINAL LOCATIONS OF ALL PITS, OUTLETS AND PIPEWORK TO BE CONFIRM DURING CC STAGE DOCUMENTATION.	



POST DEVELOPED CATCHMENT AREAS

SCALE 1:500 @ A1



PRE DEVELOPED CATCHMENT AREAS

SCALE 1:500 @ A1

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REV	DATE	DESCRIPTION
A	11.05.2023	ISSUED FOR DA

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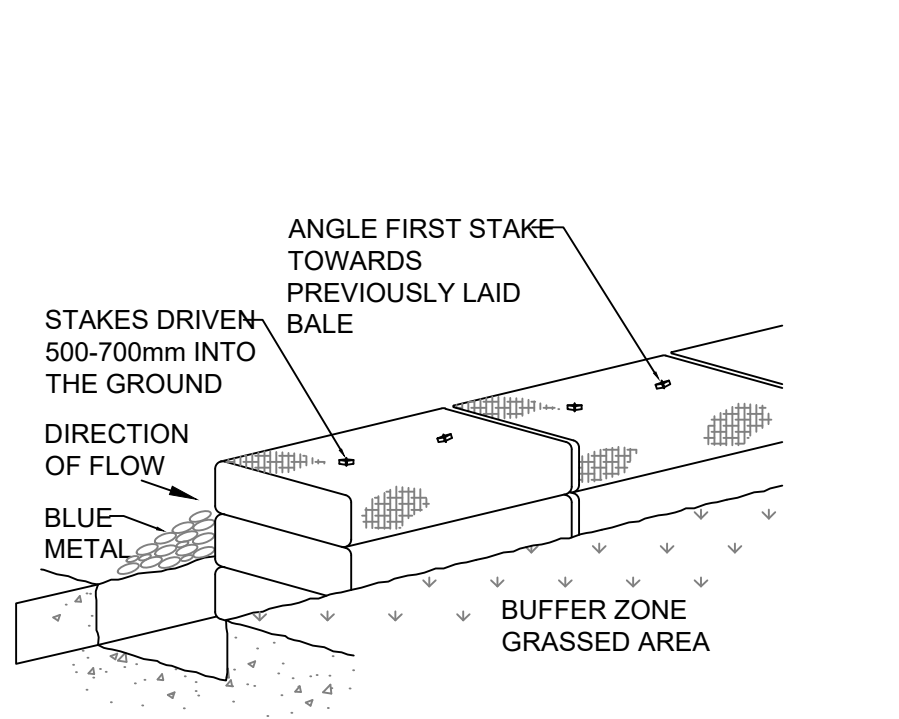
PROJECT

ALTERATIONS & ADDITIONS
6 & 7 KARA CRES
BAYVIEW, NSW

DRAWING TITLE

STORMWATER SERVICES
COVER SHEET

	DRAWN PB	ENGINEER PC	CHECKED MA	SCALE NTS@A1 NTS@A3
	PROJECT No. P2023-115	DRAWING No. SW01	REVISION A	



DETAIL - STRAW BALE BARRIERS

STRAW BALE BARRIERS

DESCRIPTION
A TEMPORARY BARRIER OF STRAW BALES PLACED AROUND THE PERIMETER OF A DISTURBED AREA.

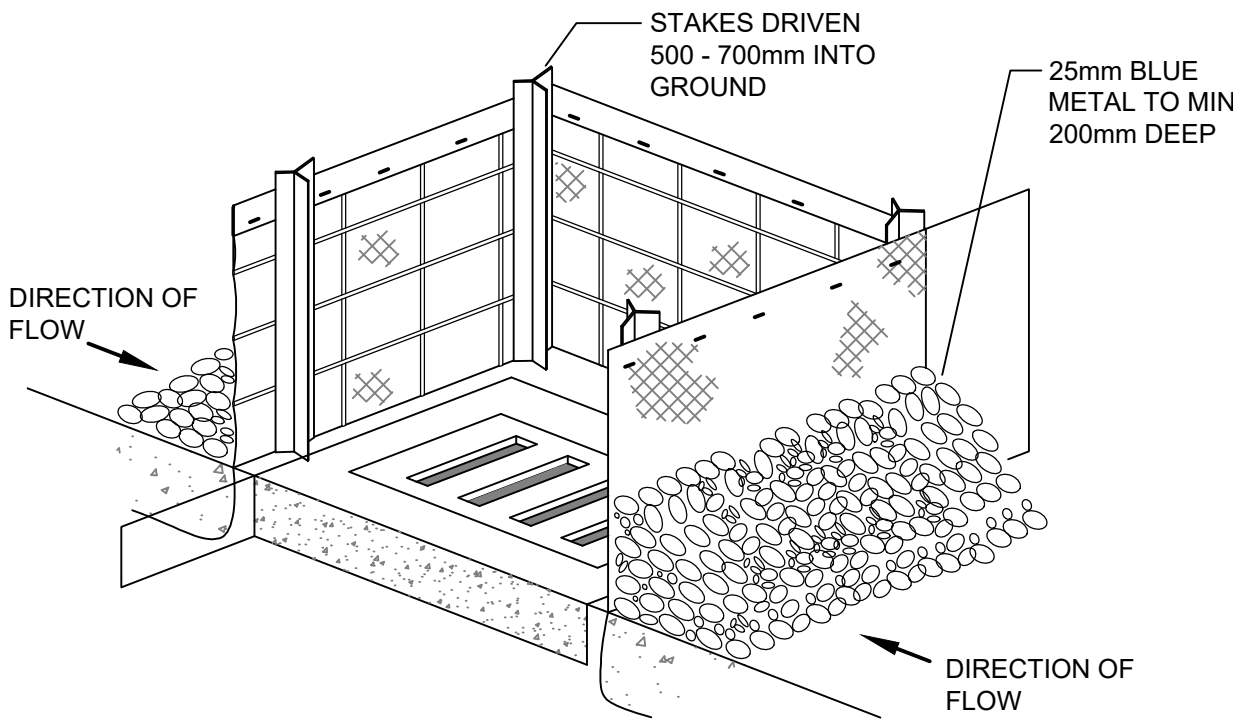
USAGE
STRAW BALE BARRIERS ARE USED TO DESILT CONTAMINATED WATER

INSTALLATION
STRAW BALES ARE ONLY EFFECTIVE ON SITES OF LESS THAN HALF A HECTARE. THE BALES SHOULD BE PLACED LENGTHWISE IN 100mm DEEP TRENCHES WITH THEIR BINDING ROPE HORIZONTAL TO THE GROUND.

THE BALES SHOULD BE CONNECTED AND ANCHORED TO THE GROUND BY DRIVING TWO STAR PICKETS OR POSTS THROUGH EACH BALE. THE FIRST STAKE MUST BE DRIVEN TOWARDS THE ADJOINING BALE AT A 45° ANGLE TO FORCE THE BALES TOGETHER.

MAINTENANCE
AFTER RAINFALL STRAW BALE BARRIERS SHOULD BE INSPECTED AND SEDIMENT REMOVED. DAMAGED BALES SHOULD BE REPAIRED OR REPLACED BALES HAVE A LIFE EXPECTANCY OF THREE TO SIX MONTHS.

NOTE
THE LOCATION OF STRAW BALES ON THE ABOVE SITE PLAN IS DIAGRAMMATIC ONLY. THE REQUIREMENT FOR THE USAGE OF STRAW BALES IS TO BE AS A SUPPLEMENTARY MEASURE TO ASSIST THE SILT FENCES. FINAL LOCATIONS AND EXTENT OF STRAW BALES TO BE DETERMINED BY THE COUNCIL.



DETAIL: STORM INLET SEDIMENT TRAP

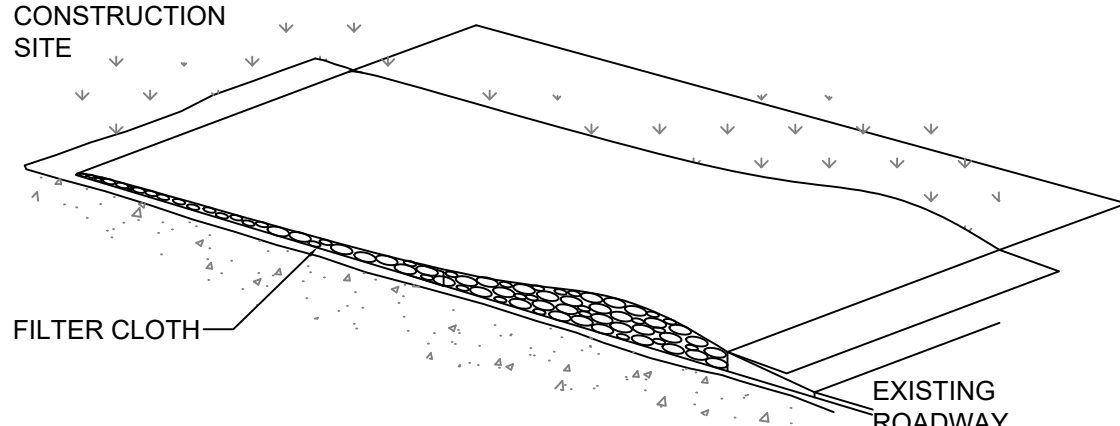
STORM INLET SEDIMENT TRAP

DESCRIPTION
THESE ARE TEMPORARY DE-SILTING STRUCTURES.

USAGE
SUCH SEDIMENT TRAPS ARE USED AT STORMWATER INLETS AND OUTLETS, CULVERT ENTRIES AND POINTS WHERE RUN-OFF FROM DISTURBED CATCHMENTS SUCH AS CONSTRUCTION SITES IS DISCHARGED.

GENERAL REQUIREMENTS
SEDIMENT TRAPS ARE BUILT FROM STRAW BALES, WASHED GRAVEL, GABIONS OR SANDBAGS (OR SARLON TYPE MATERIALS) FILLED WITH BLUE METAL. THE CHOICE OF MATERIAL OR TYPE OF STRUCTURE DEPENDS ON THE SIZE OF THE DRAINAGE AREA AND THE PHYSICAL STRUCTURE SURROUNDING THE SEDIMENT TRAP. CONSTRUCTION MATERIALS TO BE CONFIRMED BY COUNCIL.

MAINTENANCE
SEDIMENT TRAPS SHOULD BE REGULARLY MAINTAINED AND RESTORED TO THEIR ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO HALF OF THE DESIGNED CAPACITY. THE OUTLET SHOULD BE CONSTRUCTED AND MAINTAINED TO ENSURE EROSION DOES NOT OCCUR. MAINTENANCE PROGRAM SHALL BE AS REQUESTED BY COUNCIL.



DETAIL - SHAKE DOWN AREA/ACCESS STABILISATION

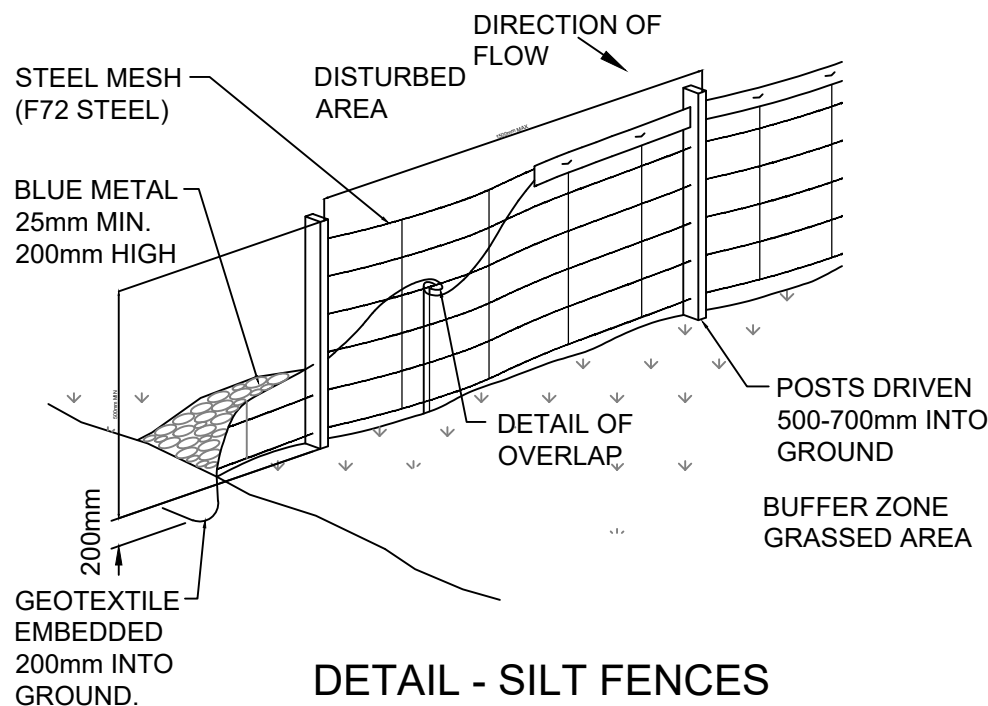
SHAKE DOWN AREAS/ACCESS STABILISATION

DESCRIPTION
STABILISED ACCESS SHALL BE A BED OF AGGREGATE ON FILTER CLOTH. GRADE THE ENTRANCE SO THAT IT IS AT LEAST 15 METRES LONG WITH A MINIMUM WIDTH OF 3 METRES FOR A ONE WAY ENTRANCE AND 6 METRES FOR A TWO WAY ENTRANCE. PLACE FILTER CLOTH OVER THE ENTIRE AREA AND COVER IT WITH 150mm MINIMUM THICKNESS OF 50mm AGGREGATE RIVER GRAVEL OR A RECYCLED OR RECLAIMED CONCRETE EQUIVALENT.

USAGE
SUCH STRUCTURES SHALL BE USED AT ALL POINTS WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE THE SITE AND EXISTING ROADWAYS.

TREATMENT/MAINTENANCE

SURFACE WATER FLOWING TO THE ENTRANCE MUST BE PIPED UNDER THE ENTRANCE, OR A BERM CONSTRUCTED TO DIRECT SURFACE FLOW AWAY FROM THE ROAD. ALL DEPOSITS ARE TO BE REGULARLY CLEARED FROM SITE ACCESS. THE DRAWBAR, TAILGATE ETC OF ANY VEHICLE INVOLVED IN THE TRANSPORT OF GRAVEL ETC TO A CONSTRUCTION SITE MUST BE MANUALLY CLEANED OF MATERIAL BEFORE THE VEHICLE LEAVES THE SITE. SHOULD THE MATERIAL BE DEPOSITED ON THE ROADWAY ETC, SUCH MATERIAL SHALL BE SWEEPED AND REMOVED FROM THE ROADWAY.



DETAIL - SILT FENCES

SILT FENCES

DESCRIPTION
SILT FENCES ARE TEMPORARY BARRIERS MADE FROM A COMBINATION OF FILTER CLOTH AND BLUE METAL

USAGE
SILT FENCES FILTER RUN-OFF LEAVING THE SITE TRAPPING THE SEDIMENT AND ALLOWING CLEAN FILTERED WATER TO PASS. SILT FENCES ARE TO BE PLACED ON THE CONTOUR OR SLIGHTLY CONVEX TO THE CONTOUR. IF ON THE CONTOUR, EACH END OF THE FENCE SHOULD BE TURNED UP TO CREATE A 'STILLING POND' UP SLOPE OF THE FENCE. WHERE POSSIBLE, A SILT FENCE SYSTEM SHOULD BE NO LONGER THAN ABOUT 20 METRES. THEY SHOULD NOT INTERCEPT LARGE CONCENTRATED OR CHANNELISED FLOWS.

INSTALLATION
THE AREA BELOW A SILT FENCE MUST BE UNDISTURBED ON STABILISED GROUND.

MAINTENANCE
SILT FENCES REQUIRE REGULAR MAINTENANCE. TRAPPED SEDIMENTS SHOULD BE REMOVED, PICKETS STRAIGHTENED, FILTER CLOTH RESECURED AND TIGHTENED AND BLUE METAL REPLACED WHEN HEAVILY CONTAMINATED WITH SILT.

NOTE
FILTER FABRIC SHALL BE EQUIVALENT TO 'GEOLAB' AND BE CAPABLE OF INTERCEPTING SILT PARTICLES DOWN TO 2 MICRON IN SIZE.

EROSION & SEDIMENT CONTROL NOTES

MINIMUM REQUIREMENTS

GENERAL
PROVIDE ON SITE CONTROLS THROUGHOUT THE ENTIRE WORKS TO ENSURE MINIMUM EROSION AND SEDIMENT LOSS.

ENSURE LEAST DISTURBANCE TO SITE.

AS EACH AREA IS COMPLETED, THAT AREA IS TO BE IMMEDIATELY/PROGRESSIVELY SEEDED AND FERTILISED. SILT FENCES, STRAW BALES OR OTHER CONTROLS NEED TO BE PROVIDED UNTIL THE SITE IS STABLE. SHOULD THIS APPROACH NOT BE PRACTICAL THE PROGRESSIVE REVEGETATION OF INDIVIDUAL AREAS WILL BE REQUIRED.

WHERE THERE IS GRADE ON OTHER AREAS OF THE SITE THAT MAY LEAD TO EROSION, FURTHER APPROPRIATE TREATMENT IS TO BE LOCATED TO CONTROL EROSION i.e. STRAW BALES

THE PROVISION AND MAINTENANCE OF (SEDIMENT) SILT FENCES WILL BE NECESSARY DURING THE CONSTRUCTION PHASE. WHEN INSTRUCTED BY THE COUNCIL PROGRESSIVELY REMOVE INDIVIDUAL SECTIONS OF SILT FENCES FOR CLEANING. CLEANING OF FENCES TO BE CARRIED OUT DURING PERIODS OF DRY WEATHER.

FILL AREAS
RUN-OFF AND SEDIMENT LOSS FROM THE AREAS OF FILL MUST BE CONTROLLED DURING AND AFTER CONSTRUCTION, BEFORE REVEGETATION TAKES PLACE USING SILT FENCES AND OR STRAW BALES AS INSTRUCTED BY THE PROJECT MANAGER/COUNCIL TO DIRECT WATER FROM THE DISTURBED AREA. OTHER MEASURES SHALL BE CARRIED OUT AS DIRECTED BY THE COUNCIL AND/OR AS SHOWN ON THE PLANS.

STOCK PILES
THE STOCK PILE LOCATION SHOWN ON THE PLAN IS PRELIMINARY. SHOULD THE BUILDER WISH TO RELOCATE THE STOCKPILE, HE SHALL OBTAIN APPROVAL FROM COUNCIL PRIOR TO COMMENCEMENT OF WORKS. THE BUILDER SHALL PRODUCE DRAWINGS INDICATING THE LOCATION OF STOCK PILES.

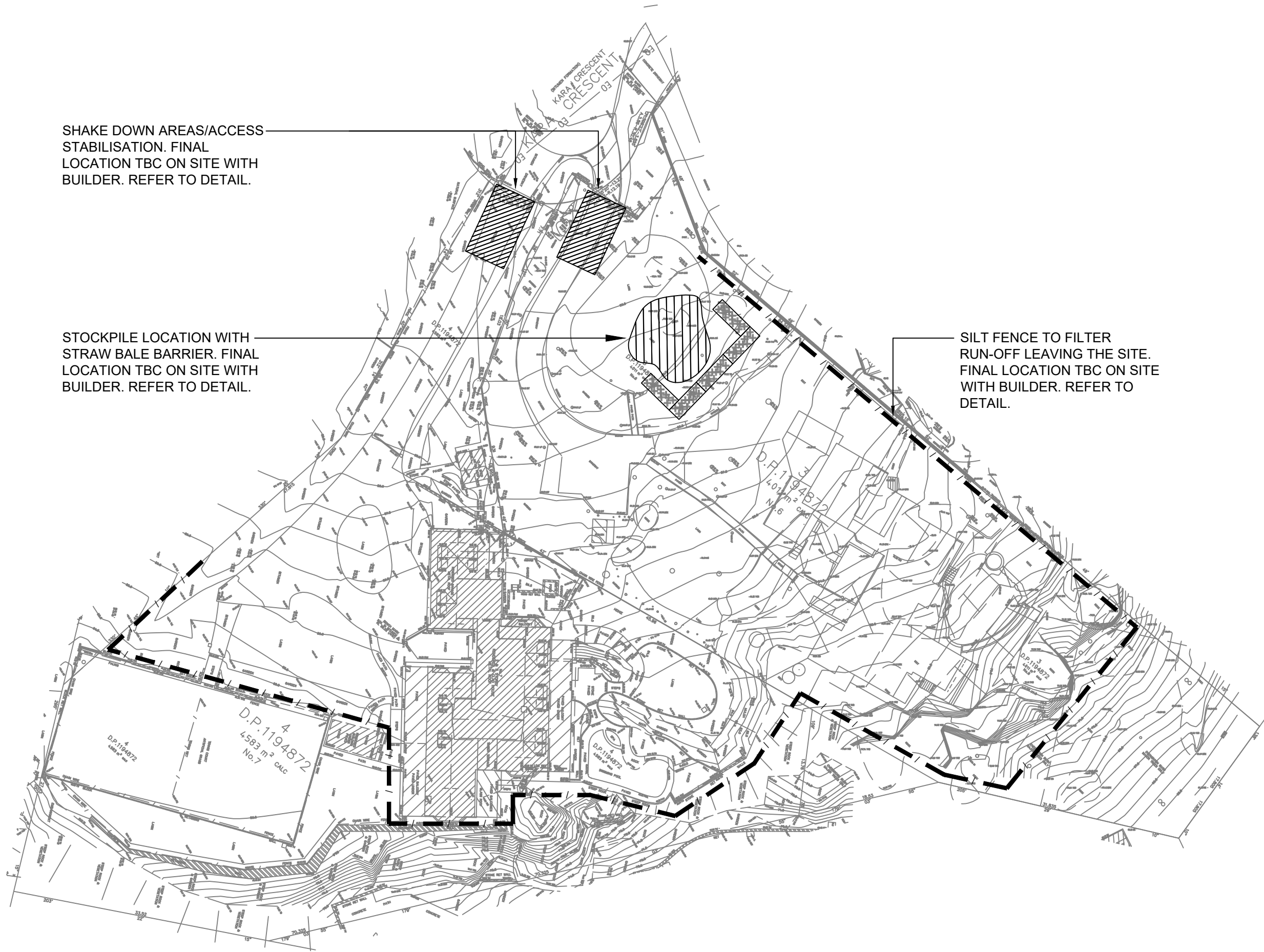
STOCK PILE SITES SHALL BE LOCATED AWAY FROM EXISTING OR PROPOSED DRAINAGE LINES OR AREAS LIKELY TO BE DISTURBED DURING CONSTRUCTION. STOCK PILE SITES SHALL NOT BE LOCATED WITHIN THE DRIP ZONE OF TREES.

STOCK PILE SITES MUST BE PROTECTED FROM EROSION AND SEDIMENT LOSS BY THE INSTALLATION OF SILT FENCES/STRAW BALES OR OTHER CONTROLS APPROVED BY COUNCIL.

WIND EROSION
TO MINIMISE WIND EROSION DURING CONSTRUCTION, THE GROUND SURFACE SHOULD BE KEPT DAMP (NOT WET). THE SURFACE SHOULD BE LEFT IN A ROUGH CLODDY CONDITION TO INCREASE ROUGHNESS AND SLOW SURFACE WIND SPEED.

LOCATION
LOCATION OF SEDIMENT CONTROL METHODS ie. SILT FENCES ARE SHOWN DIAGRAMMATICALLY ONLY ON DRAWING. FINAL LOCATION, EXTENT AND TYPE OF SEDIMENT CONTROL METHODS SHALL BE TO THE SATISFACTION OF COUNCIL.

THE CONTRACTOR, UNDER SECTION 16 OF THE CLEAN WATERS ACT, IS LIABLE FOR THE DEPOSITION OF ANY CONTAMINANTS DEPOSITED ON ROADWAYS AFTER LEAVING THE CONSTRUCTION SITE.



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PROJECT
**ALTERATIONS & ADDITIONS
6 & 7 KARA CRES
BAYVIEW, NSW**

DRAWING TITLE
**STORMWATER SERVICES
EROSION / SEDIMENT
CONTROL PLAN**

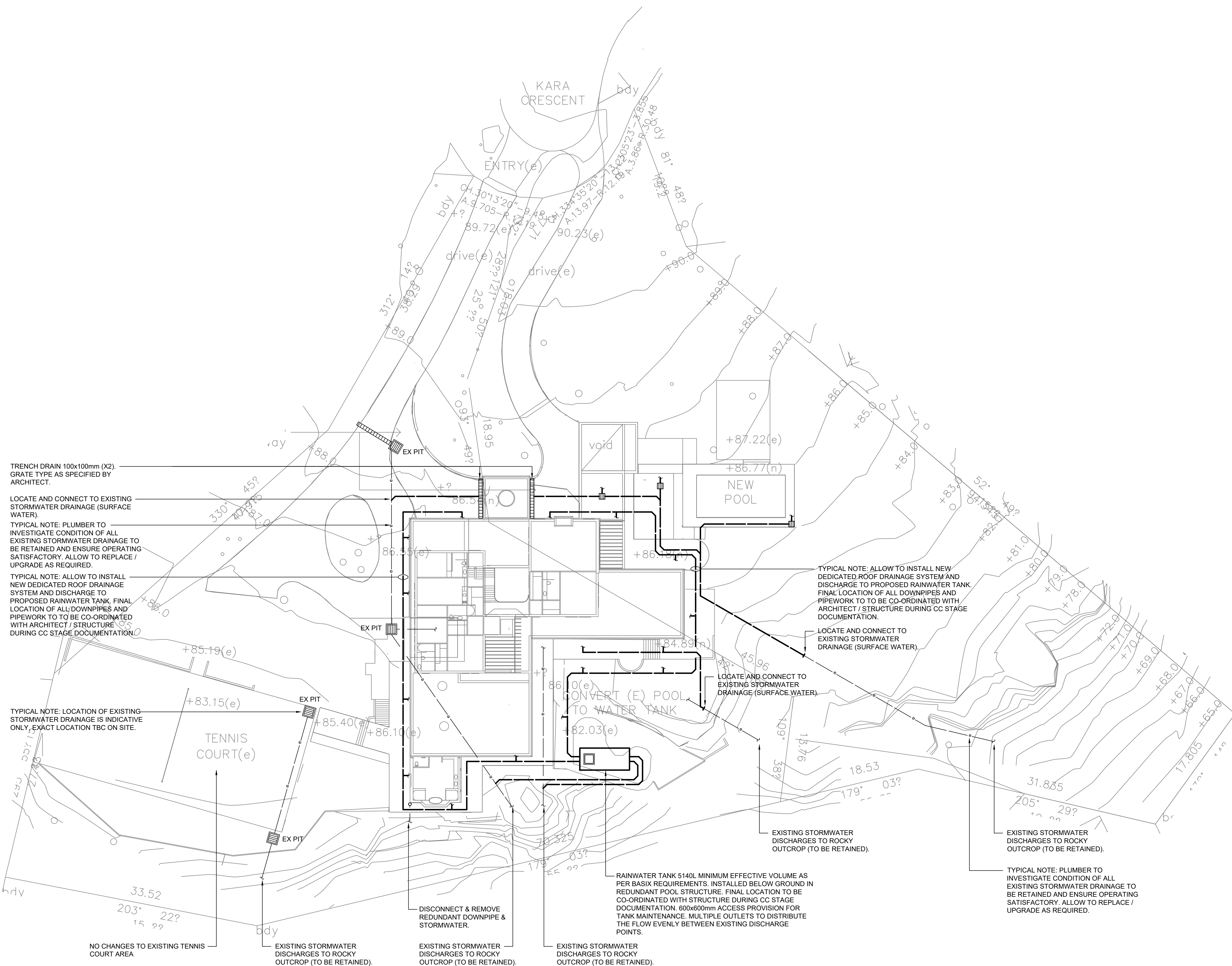
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PROJECT No.	DRAWING No.	REVISION	
P2023-115	SW02	A	

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- FINAL LOCATION OF ALL DOWNPIPES, PITS, RAINWATER OUTLETS, PIPEWORK AND SUBSOIL DRAINAGE TO BE CO-ORDINATED WITH ARCHITECTURAL, STRUCTURAL AND SERVICES DURING CC STAGE.

- ALL LANDSCAPED AREAS LOCATED ABOVE CONCRETE SLABS TO BE EQUIPPED WITH WATERPROOFING MEMBRANE, DRAINAGE CELL AND GEOFABRIC.
- FINAL LOCATION OF ALL DRAINAGE PITS, OUTLETS AND PIPEWORK IN LANDSCAPE AREAS SHALL BE CO-ORDINATED WITH THE LANDSCAPE ARCHITECT DURING CONSTRUCTION STAGE.

- SUBSOIL, UPLIFT PRESSURE, VERTICAL WALL DRAINAGE AND PIT CONSTRUCTION DETAILS TO BE CO-ORDINATED WITH STRUCTURAL AND GEOTECHNICAL ENGINEERS DURING CONSTRUCTION STAGE



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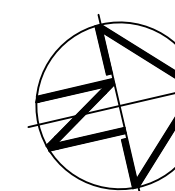
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PROJECT

ALTERATIONS & ADDITIONS
6 & 7 KARA CRES
BAYVIEW, NSW

DRAWING TITLE

STORMWATER SERVICES SITE PLAN



DRAWN PB	ENGINEER PC	CHECKED MA	SCALE 1:250@ 1:500@
PROJECT No.		DRAWING No.	REVISION
P2023-115		SW03	A