

ALBION PARK RAIL BYPASS – PRINCES HIGHWAY UPGRADE FROM DUCK CREEK TO THE OAKS FLATS INTERCHANGE

PRIMARY EROSION AND SEDIMENT CONTROL PLANS

FINAL

DRAWING SCHEDULE

DRAWING NUMBER	DRAWING TITLE
17000301_P02_ESCP0000	PRIMARY ESCP – COVER SHEET, LOCALITY PLAN AND DRAWING SCHEDULE
17000301_P02_ESCP0001	PRIMARY ESCP – GENERAL NOTES – SHEET 1 OF 2
17000301_P02_ESCP0002	PRIMARY ESCP – GENERAL NOTES – SHEET 2 OF 2
17000301_P02_ESCP0003	PRIMARY ESCP – SEDIMENT BASIN SIZING TABLE
17000301_P02_ESCP0004	PRIMARY ESCP – PHOTO EXAMPLES
17000301_P02_ESCP0005	PRIMARY ESCP – BLUE BOOK STANDARD DRAWINGS
17000301_P02_ESCP0006	PRIMARY ESCP – IECA STANDARD DRAWINGS
17000301_P02_ESCP0007	PRIMARY ESCP – IECA STANDARD DRAWINGS
17000301_P02_ESCP0008	PRIMARY ESCP – TYPICAL DETAILS AND PHOTO EXAMPLES
17000301_P02_ESCP0101	EROSION AND SEDIMENT CONTROL – ESCP0001
17000301_P02_ESCP0102	EROSION AND SEDIMENT CONTROL – ESCP0002
17000301_P02_ESCP0103	EROSION AND SEDIMENT CONTROL – ESCP0003
17000301_P02_ESCP0104	EROSION AND SEDIMENT CONTROL – ESCP0004
17000301_P02_ESCP0105	EROSION AND SEDIMENT CONTROL – ESCP0005
17000301_P02_ESCP0106	EROSION AND SEDIMENT CONTROL – ESCP0006
17000301_P02_ESCP0107	EROSION AND SEDIMENT CONTROL – ESCP0007
17000301_P02_ESCP0108	EROSION AND SEDIMENT CONTROL – ESCP0008
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17000301_P02_ESCP0111	EROSION AND SEDIMENT CONTROL – ESCP0011
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17000301_P02_ESCP0114	EROSION AND SEDIMENT CONTROL – ESCP0014
17000301_P02_ESCP0115	EROSION AND SEDIMENT CONTROL – ESCP0015
17000301_P02_ESCP0116	EROSION AND SEDIMENT CONTROL – ESCP0016
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17000301_P02_ESCP0131	EROSION AND SEDIMENT CONTROL – ESCP0031
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17000301_P02_ESCP0151	EROSION AND SEDIMENT CONTROL – ESCP0051
17000301_P02_ESCP0161	EROSION AND SEDIMENT CONTROL – ESCP0061
17000301_P02_ESCP0171	EROSION AND SEDIMENT CONTROL – ESCP0071
17000301_P02_ESCP0181	EROSION AND SEDIMENT CONTROL – ESCP0081
17000301_P02_ESCPAS04	EROSION AND SEDIMENT CONTROL PLAN – ANCILLARY FACILITY AREA AS04
17000301_P02_ESCPAS06	EROSION AND SEDIMENT CONTROL PLAN – ANCILLARY FACILITY AREA AS06
17000301_P02_ESCPAS08	EROSION AND SEDIMENT CONTROL PLAN – ANCILLARY FACILITY AREA AS08
17000301_P02_ESCPAS09	EROSION AND SEDIMENT CONTROL PLAN – ANCILLARY FACILITY AREA AS09
17000301_P02_ESCPAS11	EROSION AND SEDIMENT CONTROL PLAN – ANCILLARY FACILITY AREA AS11
17000301_P02_ESCPAS13	EROSION AND SEDIMENT CONTROL PLAN – ANCILLARY FACILITY AREA AS13



LOCALITY PLAN

N.T.S.

REV	DATE	DES.	DRN.	APP.	REVISION DETAILS	DRAWING STATUS	North	CLIENT	PROJECT TITLE	DRAWING TITLE	PROJECT NO.	SUB-PR NO.	DRAWING NO.	REV
						DESIGN BY DRAWN BY FINAL APPROVAL SCALE: (on A3 Original)	A.T. L.O. A.M. N.A.		PO Box 1098, Bowral, NSW 2576 Suites 7 & 8, 68-70 Station Street Bowral NSW 2576. (t) 02 4862 1633 (f) 02 4862 3088 email: reception@seec.com.au WWW.SEEC.COM.AU	ALBION PARK RAIL BYPASS PRINCES HIGHWAY UPGRADE FROM DUCK CREEK TO THE OAK FLATS INTERCHANGE	PRIMARY ESCP COVER SHEET, LOCALITY PLAN AND DRAWING SCHEDULE			
00	14/01/19	A.T.	A.T.	A.M.	FINAL – ISSUE FOR CONSTRUCTION USE	FINAL					17000301	P02	ESCP0000	00
A	13/12/18	A.T.	A.T.	A.M.	DRAFT ISSUE – FOR CONSULTATION									

GENERAL REQUIREMENTS

EROSION AND SEDIMENT CONTROL DESIGN

The details shown on this drawing are Primary stage erosion and sediment control requirements only. Only major primary controls are shown (e.g. sediment basins, critical sediment traps, major diversion drains and high risk areas requiring a high focus on stabilisation). All minor controls and progressive controls will need to be detailed on Progressive Erosion and Sediment Control Plans. These Construction Stage Progressive Erosion and Sediment Control Plans (PESCPs) will need to be developed prior to construction.

This ESCP has been prepared based on a desktop analysis of the road design and existing site conditions. All areas must be ground truthed/inspected prior to construction of the erosion and sediment controls to ensure all controls are suitable for the current site conditions and proposed works.

This Erosion and Sediment Control Plan (ESCP) has been prepared in accordance with Blue Book Volume 1 (Landcom, 2004) and Volume 2D – Main Road Construction (DECC,2008) and project approval conditions.

An erosion hazard assessment has been completed for all areas within the proposed work zone. The predicted soil loss across all site areas has been determined in accordance with the following:

$$A = R \times K \times LS \times C \times P$$

Where

- A = Annual soil loss due to erosion (t/ha/yr)
- R = Rainfall erosivity factor
- K = Soil erodibility factor
- LS = Topographic factor derived from slope length (SL) and slope gradient (S)
- C = Cover and management factor
- P = Erosion control practice factor

The following values have been used:

- R : 4850
- K : 0.05 (Assumed K-factor for various soil landscapes across the site)
- SL : Up to 80m MAX.
- S : Varies from 1 – 30% (excluding batters and embankments where slopes are generally up to 50%)
- LS : Varies from 0.19 to 11.60
- C : 1.0 (Construction stage – i.e. no soil surface protection or ground cover applied)
- P : 1.3 (for general construction areas)

Based on the above data, the potential soil loss varies from 61 to 3656 t/ha/yr

Under Blue Book standards, sediment basins are required if the soil loss is > 200 t/yr for any catchment. Therefore, sediment basins are required for many catchments within this project. Sediment basin locations are shown on the accompanying SEEC drawings.

STAGING AND ACCESS REQUIREMENTS

- Before commencement of works in any area, a Progressive ESCP is to be prepared and approved for use.
- As much as possible, erosion and sediment control measures are to be installed prior to ground disturbance. These will be detailed on the Progressive ESCPs.
- Barrier fencing, tape, flagging, sediment fence or similar will be installed to define no-go zones and to minimise the extent of disturbance as much as possible to only that required for safe and efficient construction.
- The soil erosion hazard on the site will be kept as low as practicable by minimising land disturbance. Some ways of doing this are outlined in Table 2.

SITE ENTRY AND EXIT POINTS

- Establish stabilised site access points anywhere where construction vehicles enter or exit a work area from a sealed public road. Refer to Standard Drawing SD 6-14 from Landcom (2004). Alternatively existing sealed surfaces can be used as long as sediment tracking is alternatively managed (e.g. wheel-wash systems, hosing down tires or street sweeping where necessary).
- Ensure that all vehicles entering and leaving work areas from a sealed public road pass over a stable access point to minimise bogging in these areas and to minimise mud tracking onto public roads.
- Refer to the notes on Site Inspection, Monitoring and Maintenance regarding street sweeping.
- The use of wheel-wash systems will be considered where standard construction exits are deemed ineffective or there is a significant risk of mud tracking onto sealed public roads.

SOIL STRIPPING AND STOCKPILING

- Ideally, strip topsoil when it is moist, not too wet or too dry.
- Stockpile areas are to be established within approved locations and as specified by the site manager. Refer to Ancillary Facility ESCPs and to Progressive ESCPs for details.
- Wherever possible, stockpiles are to be established and maintained in accordance with Standard Drawing SD 4-1 (Landcom, 2004).
- Sediment fencing is to be installed around the lower edge of stockpiles as per Standard Drawing SD 4-1,

unless the stockpile is adjacent to a suitable alternative sediment control.

- Stockpiles are not to be positioned within 5m of possible concentrated water flow (includes road gutters and table drains) unless that flow directs water to a sediment basin.
- Stockpiles are to be sited at least 50m from a Class 1 or Class 2 fish habitat waterway or a waterway used for human consumption.
- Stockpiles sites are to be located above the 100yr ARI flood level where possible, but may be located above the 20yr ARI flood level if essential (use rock bridging or bunds to achieve this).
- Wherever possible, site stockpiles on gently-sloped lands.
- As much as is feasible, mulched vegetation, topsoil and subsoil (if applicable) are to be stockpiled separately.
- Inactive stockpile faces are to be provided with at least 60% cover (i.e. RUSLE C-factor of 0.1) within 10 days of formation. Stabilisation measures on stockpiles must be employed as per the requirements set out in Table 1.
- Stockpiles of topsoil or mulch should be constructed to no more than 2 meters in height wherever possible (note this only applies to topsoil and mulch).
- Stockpiles should be formed to be no steeper than 2:1 (H:V).

DRAINAGE MANAGEMENT

- Offsite (clean) water drains or bunds and/or temporary pipes (Refer to Photo 1 on ESCP0004) will be installed as early as possible to divert offsite flows away or around or through the work areas. Refer to the accompanying ESCP drawings for locations. Details are to be provided on the Progressive ESCPs prior to commencing construction each area/stage of works.
- Onsite (dirty) water will be conveyed to sediment control structures such as basins and sediment traps using diversion channels, bunds and/or temporary pipes. The accompanying ESCPs show major dirty water diversion locations. Additional locations and details are to be provided on the Progressive ESCPs prior to commencing construction each area/stage of works.
- Wherever possible, place gypsum (e.g. floc-blocks or permeable bags of agricultural gypsum) in dirty water diversions or at the inlets into the sediment control devices to help pre-load water with coagulant prior to it reaching the sediment controls. This will greatly aid the quick settlement of sediment and reduce off-site impacts.

DUST SUPPRESSION

- Dust suppression using water carts is to be carried out whenever necessary to minimise sediments becoming air borne due to wind erosion.
- The water for dust suppression can be sourced from the sediment basins or traps. However, an alternative water source must be identified prior to starting construction works for periods when the sediment basins/traps are dry. Wherever possible, non-potable water sources will be used for dust suppression.
- Biodegradable soil stabilisers (e.g. Vital Stonewall or Gluon 240) can be used for dust suppression to help reduce the use of water (if desired).

STABILISATION AND REHABILITATION

- Undertake progressive stabilisation of disturbed ground surfaces as they are completed rather than at the end of the works program (Refer to Table 1 for ground cover and timing requirements and to Photo 2 for an example).
- Final stabilisation is to achieve the C-factors (ground cover) detailed in Table 1.
- Areas to be revegetated are to be topsoiled first. Refer to Standard Drawing SD 4-2 for instructions regarding topsoil replacement.
- Appropriate seedbed preparation should be carried out when revegetating lands (See Standard Drawing SD 7-1).
- Diversion drains and table drains are to be stabilised as detailed in Table 1, using products or materials able to withstand concentrated flows (e.g. jute matting, geotextile fabric, rock, TRM etc).
- Refer to the Soil Stripping and Stockpiling notes for stabilisation requirements on stockpiles. Also refer to Table 1 and Standard Drawing SD 4-1.
- Sediment basin and culvert outlets are to be stabilised in accordance with Table 1 and energy dissipaters are to be provided as per Standard Drawing SD 5-8.
- As surfaces are stabilised and permanent drainage measures are installed, temporary water management structures (e.g. diversion drains) and sediment controls can be removed.
- Wherever possible, re-use cleared/mulched vegetation for either temporary or permanent stabilisation of disturbed areas.
- Re-vegetating or stabilising is to be undertaken progressively as works are completed in each section.
- Prior to forecast heavy rainfall, forecast high winds or site shutdown (e.g. Christmas/New Year), Priority areas will be 'locked down' as much as is feasible and practical using temporary ground covers such as rock (rip-rap), biodegradable matting, geotextile matting, hydromulch, soil binders or similar. Priority locations are shown on the accompanying drawings and all other areas are to be detailed on the Progressive ESCPs. Refer to Photo 5 for an example of temporary stabilisation.

GENERAL REQUIREMENTS NOTES CONTINUE ON THE FOLLOWING PAGE

TABLE 1 MAXIMUM ACCEPTABLE C-FACTORS AT NOMINATED TIMES

LANDS	MAXIMUM C-FACTOR	REMARKS
Soil Class 6 lands, all lands below the 2yr ARI flood level, all lands within potentially acid sulfate soil areas and all lands within 50m of a watercourse not draining to a sediment basin.	0.05 (i.e. 70% cover)	Applies after ten working days from completion of formation.
Waterways and other areas subjected to concentrated flows (e.g. table drains), post construction and during operation	0.05 (i.e. 70% cover)	Applies after ten working days from completion of formation and before they are allowed to carry any concentrated flows. Flows will be limited to those shown in Table 5.2 of Landcom (2004). Foot and vehicular traffic will be prohibited in these areas
Stockpiles and batters, post formation	0.10 (i.e. 60% cover)	Applies after ten working days from completion of formation. Maximum C-factor of 0.10 equals 60% ground cover
All lands, including waterways and stockpiles during construction and operation	0.15 (i.e. 50% cover)	Applies after 20 working days of inactivity, even though works might continue later. Maximum C-factor of 0.15 equals 50% ground cover
All lands post construction	0.05 (i.e. 70% cover)	Applies after 60 working days of completion of works. Maximum C-factor of 0.05 equals 70% ground cover

TABLE 2 LIMITATIONS TO ACCESS DURING CONSTRUCTION

LAND USE	LIMITATION	REMARKS
Construction areas	Limited to 5 (preferably 2) metres from the edge of any essential construction activity as shown on the engineering plans	All site workers should clearly recognise these areas that, where appropriate, are identified with barrier fencing (upslope) and sediment fencing (downslope) or similar materials.
Access areas	Limited to a maximum width of 5 metres	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 of efficient works activities. All site workers will clearly recognise these boundaries
Remaining lands, including revegetation areas	Entry prohibited except for essential management works	Thinning of growth might be necessary, for example, for fire reduction or weed removal

Tables 1 and 2 from Landcom (2004)

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GENERAL REQUIREMENTS CONTINUED

SEDIMENT BASINS

- Sediment basin locations are shown on the accompanying drawings and sizing details are provided within the table on Sheet ESCP0003.
- If sediment basin volumes cannot be achieved in the locations shown, some options for alternative management include (but are not limited to):
 - Establish additional multiple small sediment sumps, traps and/or check dams within that catchment;
 - Increased use of erosion controls such as slope breaks or temporary ground covers (e.g. soil binders).
- All disturbed areas that do not drain to a sediment basin will be managed with alternative sediment controls such as sediment fences, linear swale infiltration type basins, pocket basins (i.e. sediment sumps), mulch bunds or similar - refer to the notes on Other Sediment Controls.
- If so desired, dirty water accumulating in boxed out sections can be pumped or carted to a sediment basin providing adequate capacity is available and the basin won't overflow as a result. Note that the 5-day maintenance requirement for basins to be emptied still applies (see below).
- Within 5 calendar days of the conclusion of any rainfall event of 5mm or more (i.e. enough to cause runoff), the sediment basins are to be empty, ready for the next rainfall event. This might include testing water, treating (e.g. flocculating), de-watering and de-silting basins. If rainfall occurs again within 5 days of the previous rain event, the 5-day requirement re-sets.
- Dirty water accumulating in sediment basins can be used onsite for dust suppression or construction purposes. If this occurs it does not need to be treated first. Note that the 5-day maintenance requirement for basins to be emptied still applies.
- The design rainfall event for the sediment basins is 41.9mm. It is assumed that the basins might overflow in an event of more than 41.9mm over any 5-day period.
- The sediment basins are to include outlets (weir overflow/spillway) sized to have a capacity to pass the 100 year peak flow. Outlets are to be onto stable lands or into a waterway.
- Water quality must be checked prior to any controlled release from sediment basins. Refer to the De-watering notes below.
- Additional volume can be provided in sediment basins for storing water if so desired (i.e. they can be made bigger than is required by this ESCP).
- As much as is feasible, gypsum should be included in sediment basin walls and inlets to promote sediment settling.
- A marker peg (or similar) is to be included in every basin showing the top level of the Sediment Storage volume.
- Sediment basins are to be de-silted whenever sediment accumulates to more than 60% of the Sediment Storage Volume. Sediment removed from the basin can be taken to a stockpile area, buried onsite or used as general fill. Ensure sediment removed from basins is not placed where it could wash, blow or fall offsite.
- Sediment basins are to achieve at least 3:1 length:width from their inlet(s) to their spillway. If this is not achieved through the natural shape of the basin, a baffle is to be included.
- As much as possible sediment basins within flood-prone areas are to be built up so that the inlet and outlet points are above the 2yr ARI flood level and to minimise excavating into the ground surface. However, during the initial soil stripping and earthworks stage the basin inlet levels may need to be temporarily lowered to enable dirty water flows to drain into the basins. This will essentially temporarily reduce the basin volumes and therefore, alternative sediment traps, filtration outlets and stabilisation of disturbed surfaces prior to heavy rainfall will be required during this initial period. Each sediment basin will need to be assessed individually prior to construction to achieve the best possible outcome.
- To assist with the point above and to minimise disturbance on floodplains, dirty water can be pooled up in long, near-level drains rather than building dedicated sediment basins (i.e. use "linear swale-type basins"). Use large check dams to establish these linear basins if required.
- For sediment basins established in flood-prone areas, adequate armouring will be required around their bases to minimise the risk of scour in the event of inundation.

DE-WATERING

- Any active discharge of water from the project (i.e. where water is moved offsite via direct action such as pumping rather than flowing off the project as a result of heavy rainfall) is to achieve:
 - 50mg/L or less TSS (Total Suspended Sediment); and
 - pH 6.5 to 8.5; and
 - <10mg/L oil and grease and no visible trace.
- Treatment of water in sediment basins can be done with gypsum at a rate of approximately 30 kg gypsum per 100 m³ of dirty water. Alternative flocculating agents can be used if agreed by RMS and allowed under the project EPL. Refer to manufacturer's guidelines for dosage details. Batch dosing of sediment basins should ensure that flocculating agents are mixed evenly over the entire basin surface.
- Note that water accumulating in any sort of excavation or sump on the project should be managed in accordance with these de-watering requirements.
- If the water is going to be used within the construction site for dust-suppression or construction purposes and will drain back into the sediment capture system it does not require treatment.

OTHER SEDIMENT CONTROLS

- The positioning of other sediment controls such as Check Dams, Mulch Bunds, Sediment Fences, Straw Bale Filters, Rock Filter Dams (Refer to Photo 3 for an example) and U-Shaped Sediment Traps is to be determined on Progressive ESCPs.
- Where sediment fencing is used, install it in accordance with Standard Drawing SD 6-8 (Landcom, 2004).
- Sediment fences are to be firmly trenched into the ground for their entire length.
- Wherever space permits, sediment fences will include small 'returns' at maximum 20m intervals (see Standard Drawing 6-8) to minimise the risk of water flowing along them rather than through them.
- Where Rock Filter Dams are used install them in accordance with Standard Drawings RFD-01&02 (IECA, 2008).
- Where mulch filter berms are used, ensure they are placed along the contour, away from areas of concentrated flow, away from waterways and are to have a lined spillway/overflow at their low point. Also refer to Standard Drawing MB-01 (IECA, 2008). If required, provide additional bunding to limit the potential for tannin leachate from entering waterways.
- Where straw bale filters are used, install them in accordance with Standard Drawing SD 6-7 (Landcom, 2004).
- Check dams can be formed with sandbags, gravel socks, rock or similar and can be placed in drains to slow flows and assist with sediment capture. Refer to Standard Drawing SD 5-4.

SITE INSPECTION, MONITORING AND MAINTENANCE

- Prior to forecast rainfall of 5mm or more over 24 hours, the following will occur:
 - The site environment manager (or their representative) is to inspect (and record the condition of, and any action required) the condition of all erosion and sediment controls;
 - Slope breaks will be pushed up or cut in across large, exposed areas to slow down flows and minimise erosion. The spacing and locations of these slope breaks is to be determined on Progressive ESCPs but is to be in accordance with the following:
 - Up to 80m for slopes <10%;
 - Up to 40m for slopes >10% but less than 15%;
 - Up to 20m for slopes >15% but less than 30%;
 - Up to 10m for slopes >30%.
 - Windrows are to be formed around the outer edge of fill batters with regular batter chutes also installed. Refer to Photo 4 for a typical batter chute. Locations and details are to be provided on Progressive ESCPs.
- Prior to forecast rainfall of 20mm or more over 24 hours, forecast high winds or site shutdown (e.g. Christmas/New Year) the following will occur:
 - Temporary ground covers are to be employed over Priority areas as shown on the accompanying ESCPs and as detailed in the Progressive ESCPs. Also refer to the Stabilisation and Rehabilitation notes.
- Regular site inspections are to be conducted by the site environment manager (or their representative):
 - At least weekly during normal construction hours; and
 - Prior to forecast rainfall (see above); and
 - Daily during rain events (if safe to do so); and
 - Within 24 hours of the cessation of a rain event that causes runoff.
- Additional erosion and sediment controls will be installed as necessary to ensure satisfactory outcomes in keeping with the EPL conditions and best-practice Blue Book guidelines.
- Progressive ESCPs will be updated and/or prepared as required.
- Sediment or rocks tracked from the site will be removed from public roads as soon as possible (e.g. with street sweepers).
- After rainfall, sediment accumulated in trapping devices (e.g. basin, sediment fence) will be removed to a secure location where it can't wash or blow offsite (preferably to an active stockpile).
- Weather conditions will be monitored onsite and daily rainfall will be recorded.
- Safe storage areas for wastes, fuels, excess concrete and other potential contaminants are to be delineated by the site manager. Refer to the SWMP for further details.
- Adequate supplies of flocculant (and flocculating equipment) are to be maintained, based on the number of sediment basins present at that time.
- Batter chutes (see Photo 4 for a typical batter chute example) are to be provided down batters (where necessary) to minimise the risk of scour. The locations for these are to be detailed on Progressive ESCPs.

WORKS AROUND WATERWAYS

- Where access/haul roads cross floodplains, these are to be formed using clean rock with geotextile underlay (or equivalent) to provide a trafficable surface with minimal risk of erosion even when inundated.
- Minimise the extent of disturbance in waterways and on floodplains. When working on floodplains, consider using ground mats instead of clearing vegetation and stripping topsoil.
- Exposed fill batters around waterways and in flood prone areas are to be stabilised (locked down with soil stabilisers or covered with fabric/matting) as required to minimise the risk of erosion.
- Permanent stabilisation and rehabilitation of fill batters is to occur progressively as they are completed.
- As fills are raised, they are to be windrowed whenever rain of 5mm in 24hrs (or more) is likely, with regular batter chutes also installed. Refer to the notes on Site Inspection, Monitoring and Maintenance and to Photo 4 for a typical example.

- Ideally, construct culverts and clean water diversions as early in the works program as possible.
- As much as possible sediment basins within flood-prone areas are to be built up so that the inlet and outlet points are above the 2yr ARI flood level and to avoid excavating into the ground surface. However, during the initial soil stripping and earthworks stage the basin inlet levels may need to be temporarily lowered to enable dirty water flows to drain into the basins. This will temporarily reduce the basin volumes and therefore, alternative sediment traps, filtration outlets and stabilisation of disturbed surfaces prior to heavy rainfall will be required during this initial period. Each sediment basin will need to be assessed individually prior to each stage of construction to achieve the best possible outcome.
- To assist with the point above and to minimise disturbance on floodplains, dirty water can be pooled up in long, near-level drains rather than building dedicated sediment basins (i.e. use "linear swale-type basins"). Use large check dams to establish these linear basins if required.
- For sediment basins established in flood-prone areas, adequate armouring will be required around their bases to minimise the risk of scour in the event of inundation.
- Piling platforms are to be formed with clean rock in accordance with engineering detail. The running surface of piling platforms is to be stabilised with aggregate, gravel, DGB and a heavy duty trafficable soil stabiliser or similar. Refer to ESCP0008 for typical piling platform details and photos.
- Silt curtains are to be provided around works that encroach into waterways where feasible. Silt curtains are to be provided from bank back to the same bank (i.e. they should not cross the waterway to the opposite bank). Refer to the manufacturers requirements for other installation details and to Standard Drawings FSC-01-03 (IECA, 2008). Major locations are shown on the accompanying ESCPs. Other locations and details are to be provided on Progressive ESCPs.
- As much as possible, works within watercourses are to be scheduled for late winter or spring months when rainfall is historically lower.
- The duration of works in waterways is to be minimised as much as possible.

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						DESIGN BY DRAWN BY FINAL APPROVAL SCALE: (on A3 Original)				
						A.T. L.O. A.M. N.A.				
00	14/01/19	A.T.	A.T.	A.M.	FINAL - ISSUE FOR CONSTRUCTION USE	FINAL			ALBION PARK RAIL BYPASS PRINCES HIGHWAY UPGRADE FROM DUCK CREEK TO THE OAK FLATS INTERCHANGE	PRIMARY ESCP GENERAL NOTES SHEET 2 OF 2
A	13/12/18	A.T.	A.T.	A.M.	DRAFT ISSUE - FOR CONSULTATION					
										PROJECT NO. 17000301
										SUB-PR NO. P02
										DRAWING NO. ESCP0002
										REV 00

SEDIMENT BASIN SIZING TABLE

BASIN ID	16400W	16800W	17100W	17420W	17600E	17800W	18300E	18520E	18800W	19500W	19700W	20000E	20300E	20400E	20650E	20700W	20720E	21000W	21000E	21050E	21100W	21300E	21320W	21500W
CHAINAGE	16400	16800	17100	17420	17600	17800	18300	18520	18800	19500	19700	20000	20300	20400	20650	20700	20720	21000	21000	21050	21100	21300	21320	21500
Catchment area TOTAL (ha)	2.04	1.92	3.7	1.1	3.4	2.65	2.98	1.6	2.16	3.92	4.32	3.4	1.22	1.27	3.5	0.53	0.72	0.3	2.3	1	1.2	1.1	1	1.95
Catchment area DISTURBED (ha)	2.04	1.92	3	1.1	3.4	2.65	2.98	1.6	2.16	3.32	4.32	3.4	1.22	1.27	3.5	0.53	0.72	0.3	2.3	1	1.2	1.1	1	1.95
x-day, y-percentile rainfall event (mm)	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9
Rainfall erosivity (R-factor)	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850
Soil erodibility (K-factor)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Slope length (m)	80	10	20	80	20	80	15	80	80	80	20	20	10	10	15	15	20	6	10	15	15	15	15	15
Slope gradient (%)	4	30	50	10	50	7	50	10	3	5	4.5	4.5	30	50	30	50	4.5	50	50	50	50	50	50	50
LS-Factor	0.91	2.23	5.89	2.81	5.89	1.76	4.64	2.81	0.65	1.19	0.49	0.49	2.23	3.33	3.07	4.64	0.49	2.18	3.33	4.64	4.64	4.64	4.64	4.64
Erosion control practice (P-factor)	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Ground cover (C-factor)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cv (Volumetric runoff coefficient)	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Soil loss (t/ha/yr)	288	702	1855	885	1855	554	1464	885	205	374	154	154	702	1048	968	1464	154	688	1048	1464	1464	1464	1464	1464
Sediment basin storage (soil) volume (m3)	75	173	714	125	809	188	559	182	57	159	85	67	110	171	434	99	14	26	309	188	225	206	188	366
Sediment basin settling (water) volume (m3)	590	555	1070	318	983	766	862	463	624	1133	1249	983	353	367	1012	153	208	87	665	289	347	318	289	564
Sediment basin total volume (m3)	665	728	1784	443	1792	954	1421	645	681	1292	1334	1050	463	538	1446	252	222	113	974	477	572	524	477	930
Catchment Soil Loss (t/yr)	587	1347	5566	973	6309	1469	4363	1416	443	1242	663	522	856	1331	3389	776	111	206	2411	1464	1757	1610	1464	2855
Is a basin required	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	YES	YES	YES

BASIN ID	21550E	21800E	21950E	21950W	22250E	22200W	22850E	22900W	23150W	23200E	23200W	23800W	23850E	24300E	24400E	24650W	24800E	25450W	25500W	AS4-1	AS8-1	AS8-2	AS13-1
CHAINAGE	21550	21800	21950	21950	22150	22200	22850	22900	23150	23200	23200	23800	23850	24300	24400	24650	24800	25450	25500	NA	NA	NA	NA
Catchment area TOTAL (ha)	3.2	1.5	0.89	0.63	5.3	2.95	1.69	1.13	4.5	5.4	4	2.49	2.4	4.44	5.26	3	3.98	5.77	4.3	1.45	4.95	1.4	7.64
Catchment area DISTURBED (ha)	3.2	1.5	0.89	0.63	5.3	2.95	1.69	1.13	4.5	5.4	4	2.49	2.4	3.2	4.5	3	3.98	4	4.3	1.45	4.95	1.4	7.64
x-day, y-percentile rainfall event (mm)	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9	41.9
Rainfall erosivity (R-factor)	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850	4850
Soil erodibility (K-factor)	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Slope length (m)	15	20	80	10	20	80	80	80	80	80	80	80	80	80	80	40	80	40	80	80	80	80	80
Slope gradient (%)	50	10	4.5	50	5	4	5	7.5	8	4	7	7	7	6	4	15	15	20	5	7	4	5	12
LS-Factor	4.64	1.09	1.05	3.33	0.54	0.91	1.19	1.90	2.05	0.91	1.76	1.76	1.76	1.47	0.91	3.05	5.06	4.32	1.19	1.76	0.91	1.19	3.7
Erosion control practice (P-factor)	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Ground cover (C-factor)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Cv (Volumetric runoff coefficient)	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Soil loss (t/ha/yr)	1464	344	331	1048	169	288	374	600	647	288	554	554	554	463	288	961	1596	1362	374	554	288	374	1167
Sediment basin storage (soil) volume (m3)	601	66	38	85	115	109	81	87	373	199	284	177	171	190	166	370	814	698	206	103	183	67	1143
Sediment basin settling (water) volume (m3)	925	434	257	182	1532	853	489	327	1301	1561	1156	720	694	1284	1521	867	1151	1668	1243	419	1431	405	2209
Sediment basin total volume (m3)	1526	500	295	267	1647	962	570	414	1674	1760	1440	897	865	1474	1687	1237	1965	2366	1449	522	1614	472	3352
Catchment Soil Loss (t/yr)	4685	515	294	660	897	849	632	678	2911	1554	2218	1380	1331	1483	1295	2882	6352	5448	1609	804	1425	524	8917
Is a basin required	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

REV	DATE	DES.	DRN.	APP.	REVISION DETAILS
00	14/01/19	A.T.	A.T.	A.M.	FINAL - ISSUE FOR CONSTRUCTION USE
A	13/12/18	A.T.	A.T.	A.M.	DRAFT ISSUE - FOR CONSULTATION

DRAWING STATUS	
DESIGN BY	A.T.
DRAWN BY	L.O.
FINAL APPROVAL	A.M.
SCALE:	N.A.
(on A3 Original)	
FINAL	

North

CLIENT




PO Box 1098, Bowral, NSW, 2576
 Suites 7 & 8, 68-70 Station Street
 Bowral NSW 2576.
 (t) 02 4862 1633
 (f) 02 4862 3088
 email: reception@seec.com.au
 WWW.SEEC.COM.AU

PROJECT TITLE

**ALBION PARK RAIL BYPASS
 PRINCES HIGHWAY UPGRADE
 FROM DUCK CREEK TO THE
 OAK FLATS INTERCHANGE**

DRAWING TITLE			
PRIMARY ESCP SEDIMENT BASIN SIZING TABLE			
PROJECT NO.	SUB-PR NO.	DRAWING NO.	REV
17000301	P02	ESCP0003	00

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PHOTO 1 - EXAMPLE OF TEMPORARY PIPED CLEAN WATER DIVERSION INSTALLED PRIOR TO RAINFALL



PHOTO 2 - PROGRESSIVE STABILISATION OF BATTERS AS WORKS PROGRESS



PHOTO 3 - EXAMPLE OF ROCK FILTER DAM AND SUMP



EARTH WINDROW ALONG TOP EDGE OF FILL BATTER TO DIRECT FLOWS TO BATTER CHUTE

LINED BATTER CHUTE

PHOTO 4 - EXAMPLE OF BATTER CHUTE



PHOTO 5 - TEMPORARY STABILISATION OF BATTERS WITH POLYMER

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DRAWN BY	L.O.
FINAL APPROVAL	A.M.
SCALE:	NTS
(on A3 Original)	
FINAL	

North

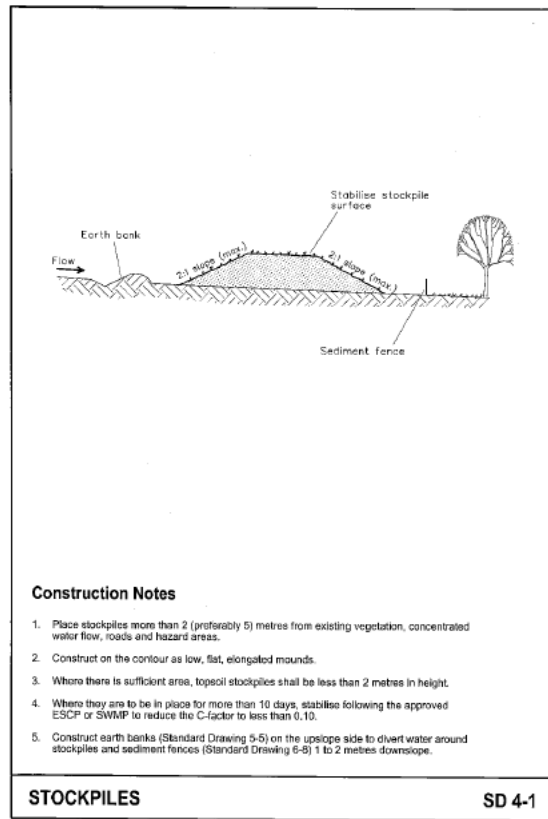
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PO Box 1098, Bowral, NSW 2576
 Suites 7 & 8, 68-70 Station Street
 Bowral NSW 2576.
 (t) 02 4862 1633
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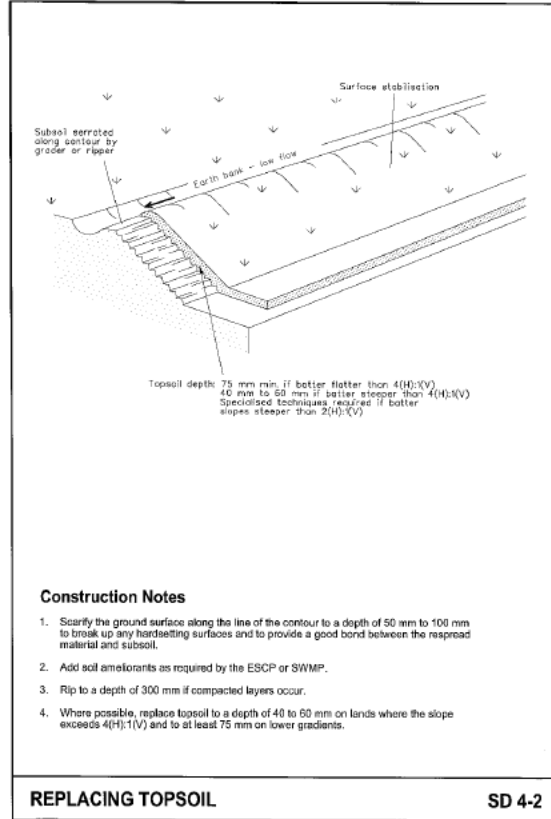
PROJECT TITLE

**ALBION PARK RAIL BYPASS
 PRINCES HIGHWAY UPGRADE
 FROM DUCK CREEK TO THE
 OAK FLATS INTERCHANGE**

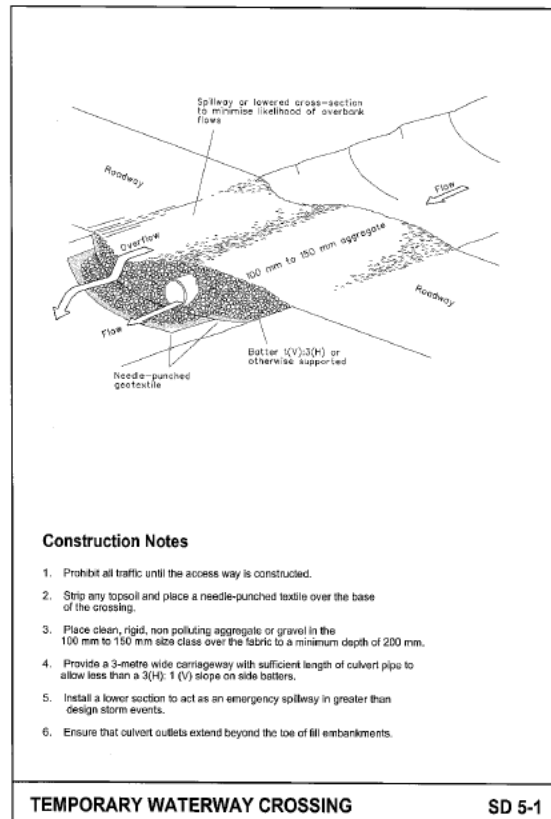
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PRIMARY ESCP PHOTO EXAMPLES			
PROJECT NO.	SUB-PR NO.	DRAWING NO.	REV
17000301	P02	ESCP0004	00



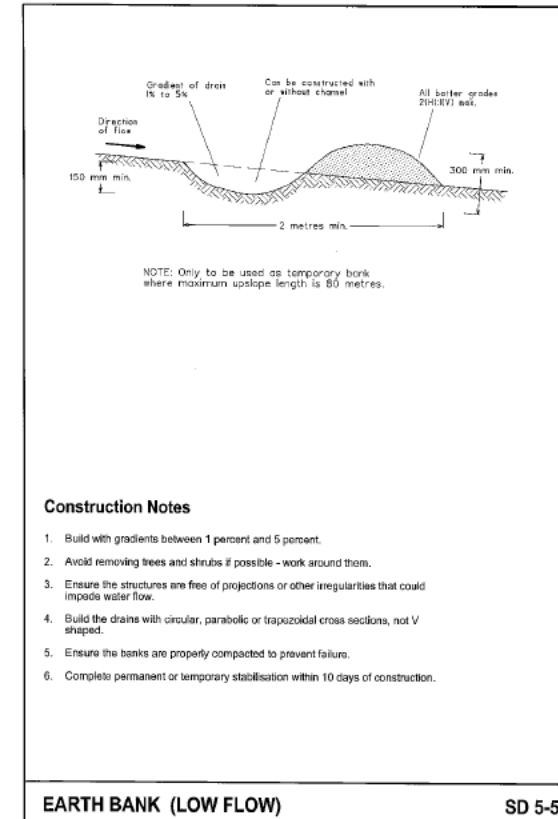
STOCKPILES SD 4-1



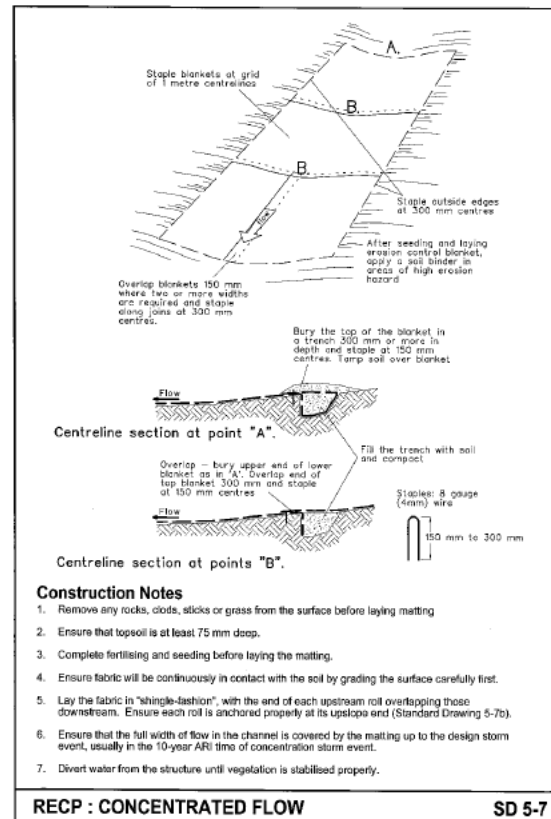
REPLACING TOPSOIL SD 4-2



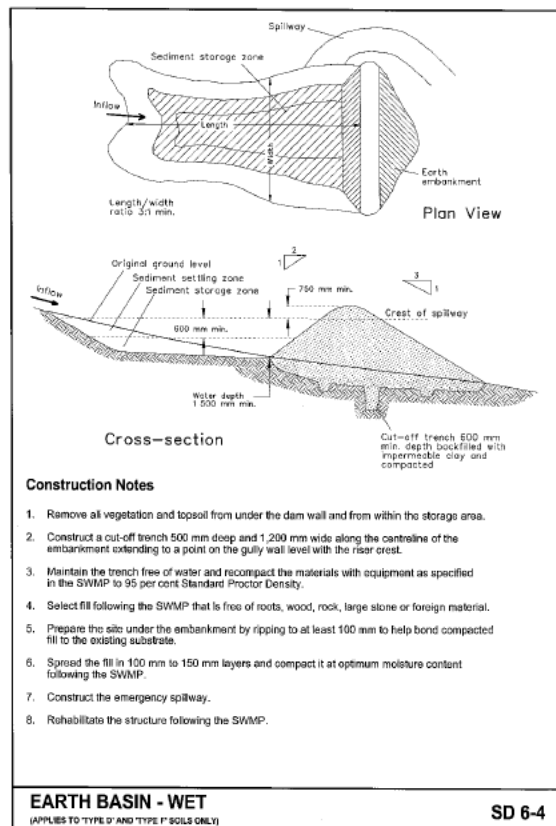
TEMPORARY WATERWAY CROSSING SD 5-1



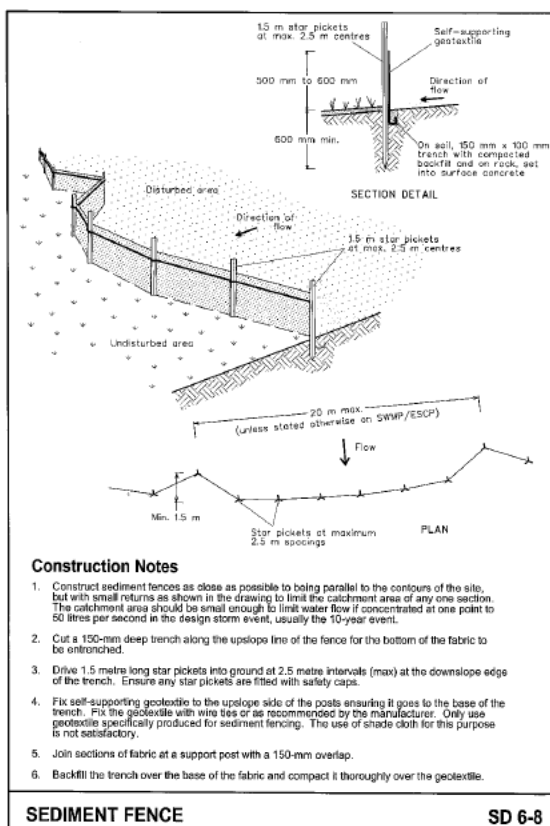
EARTH BANK (LOW FLOW) SD 5-5



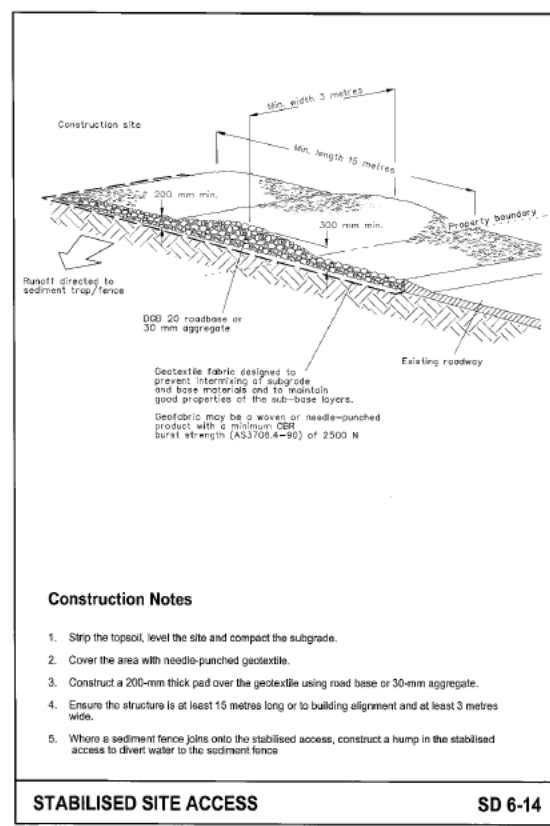
RECP: CONCENTRATED FLOW SD 5-7



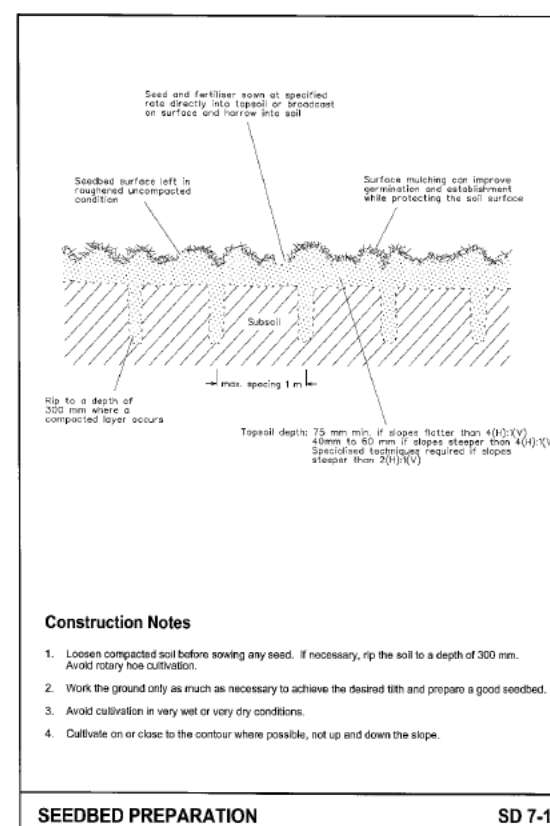
EARTH BASIN - WET SD 6-4



SEDIMENT FENCE SD 6-8



STABILISED SITE ACCESS SD 6-14



SEEDBED PREPARATION SD 7-1

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REV	DATE	DES.	DRN.	APP.	REVISION DETAILS
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DRAWN BY	L.O.
FINAL APPROVAL	A.M.
SCALE:	N.A.
(on A3 Original)	
FINAL	

North

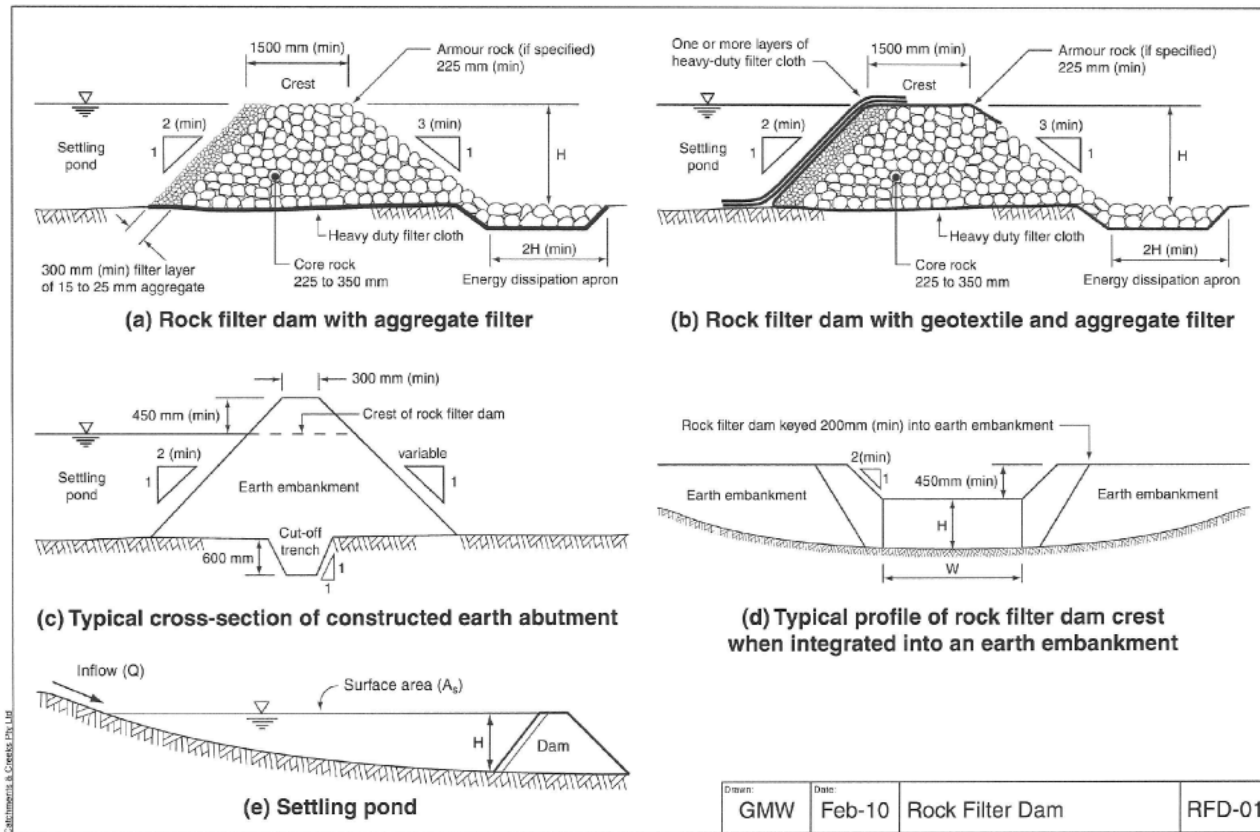
CLIENT

PO Box 1098, Bowral, NSW 2576
 Suites 7 & 8, 68-70 Station Street
 Bowral NSW 2576.
 (t) 02 4862 1633
 (f) 02 4862 3088
 email: reception@seec.com.au
 WWW.SEEC.COM.AU

PROJECT TITLE

**ALBION PARK RAIL BYPASS
 PRINCES HIGHWAY UPGRADE
 FROM DUCK CREEK TO THE
 OAK FLATS INTERCHANGE**

DRAWING TITLE			
PRIMARY ESCP BLUE BOOK STANDARD DRAWINGS			
PROJECT NO.	SUB-PR NO.	DRAWING NO.	REV
17000301	P02	ESCP0005	00



Drawn: GMW	Date: Feb-10	Rock Filter Dam	RFD-01
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MATERIALS

PRIMARY CORE ROCK: WELL GRADED, HARD, ANGULAR, EROSION RESISTANT ROCK, WITH MEAN SIZE AS SPECIFIED IN THE APPROVED PLAN, BUT NOT LESS THAN 225mm, OR GREATER THAN 350mm.

ARMOUR ROCK: WELL GRADED, HARD, ANGULAR, EROSION RESISTANT ROCK, WITH MEAN SIZE AS SPECIFIED IN THE APPROVED PLAN, BUT NOT LESS THAN 225mm.

AGGREGATE FILTER: 15 TO 25mm CLEAN AGGREGATE.

GEOTEXTILE FILTER FABRIC: HEAVY-DUTY NON-WOVEN, NEEDLE-PUNCHED FILTER FABRIC, MINIMUM 'BIDIM' A34 OR EQUIVALENT.

INSTALLATION

- REFER TO APPROVED PLANS FOR LOCATION AND CONSTRUCTION DETAILS. IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, OR METHOD OF INSTALLATION, CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
- CLEAR THE FOUNDATION AREA OF THE ROCK FILTER DAM OF WOODY VEGETATION AND ORGANIC MATTER. DELAY CLEARING THE UP-SLOPE POND AREA UNTIL THE DAM IS FORMED AND IS ABLE TO ACT AS A SUITABLE SEDIMENT TRAP. OTHERWISE AN ALTERNATIVE TEMPORARY DOWNSTREAM SEDIMENT TRAP MAY BE REQUIRED DURING CONSTRUCTION OF THE ROCK FILTER DAM.
- IF SPECIFIED ON THE PLANS, EXCAVATE A CUT-OFF TRENCH ALONG THE CENTRE-LINE OF THE DAM AND EARTH ABUTMENTS (IF ANY).
- COVER THE FOUNDATION AREA AND CUT-OFF TRENCH WITH HEAVY-DUTY FILTER FABRIC BEFORE BACKFILLING WITH THE CORE ROCK. OVERLAP ADJOINING FABRIC SHEETS A MINIMUM OF 600mm.
- CONSTRUCT THE ASSOCIATED EARTH ABUTMENT (IF ANY). ALL CUT AND FILL SLOPES SHOULD BE 2:1(H:V) OR FLATTER. THE

DOWNSTREAM FACE OF EARTH ABUTMENTS SHOULD BE 3:1(H:V) OR FLATTER. EARTH ABUTMENTS SHOULD BE CONSTRUCTED OF WELL-COMPACTED, EROSION RESISTANT SOIL THAT IS FREE OF VEGETATION AND ROOTS. OVERFILL EARTH ABUTMENTS 150mm TO ALLOW FOR SETTLEMENT.

- PLACE THE CORE ROCK FOR THE ROCK FILTER DAM. ENSURE THE UPSTREAM FACE IS 2:1(H:V) OR FLATTER, AND THE DOWNSTREAM FACE IS 3:1(H:V) OR FLATTER.
- ENSURE THE ROCK IS MACHINE PLACED WITH THE SMALLER ROCKS WORKED INTO THE VOIDS OF THE LARGER ROCKS.
- IF SPECIFIED, CONSTRUCT THE SPILLWAY SECTION USING THE SPECIFIED ARMOUR ROCK. THE SPILLWAY SHOULD HAVE A MINIMUM PROFILE DEPTH OF 300mm. THE SPILLWAY WEIR CREST MUST BE LEVEL ACROSS ITS FULL WIDTH. THE MAXIMUM LONGITUDINAL SLOPE OF THE ROCK SPILLWAY SHOULD BE 3:1(H:V). THE MINIMUM THICKNESS OF ARMOUR ROCK PROTECTION SHOULD BE 500mm, OR TWICE THE NOMINAL ROCK SIZE, WHICHEVER IS THE GREATER.
- ENSURE THE SPILLWAY OUTLET SECTION EXTENDS DOWNSTREAM PAST THE TOE OF THE FORMED EMBANKMENT UNTIL STABLE CONDITIONS ARE REACHED, OR A DISTANCE EQUAL TO THE HEIGHT OF THE DAM, WHICHEVER IS THE GREATER. THE EDGES OF THE SPILLWAY SHOULD BE LEFT FLUSH WITH THE SURROUNDING GROUND.
- INSTALL THE SPECIFIED FILTER (AGGREGATE AND/OR FILTER CLOTH) ON THE UPSTREAM FACE OF THE ROCK FILTER DAM.
- IF FILTER CLOTH IS USED, THEN:
 - EXTEND THE FABRIC OVER THE CREST OF THE ROCK FILTER DAM INTO THE SPILLWAY CHUTE.
 - CONSIDER THE PLACEMENT OF SEVERAL LAYERS OF OVERLAPPING FABRIC, THUS ALLOWING EACH LAYER TO BE REMOVED INDIVIDUALLY ONCE THE FABRIC BECOMES BLOCKED WITH SEDIMENT.

12. CLEAR THE SETTLING POND AREA OF WOODY VEGETATION AND ORGANIC MATTER TO THE DIMENSIONS SPECIFIED WITHIN THE PLANS.

13. WHERE NECESSARY EXCAVATE THE UPSTREAM SETTLING POND AND/OR SEDIMENT STORAGE PIT IN ACCORDANCE WITH THE APPROVED PLANS. EXCAVATED PITS TYPICALLY HAVE SIDE SLOPES OF 2:1(H:V) OR FLATTER UNLESS STEEPER SLOPES ARE KNOWN TO BE STABLE.

14. STABILISE ANY ASSOCIATED EARTH EMBANKMENTS IMMEDIATELY AFTER CONSTRUCTION THROUGH APPROPRIATE COMPACTION, VEGETATION AND/OR EROSION CONTROL MATTING.

15. ESTABLISH ALL NECESSARY UP-SLOPE DRAINAGE CONTROL MEASURES TO ENSURE THAT SEDIMENT-LADEN RUNOFF IS APPROPRIATELY DIRECTED INTO THE SEDIMENT TRAP.

16. TAKE ALL NECESSARY MEASURE TO MINIMISE THE SAFETY RISK CAUSED BY THE STRUCTURE.

MAINTENANCE

- CHECK ALL ROCK FILTER DAMS AFTER EACH RUNOFF EVENT AND MAKE REPAIRS IMMEDIATELY.
- INSPECT ALL ROCK AND EARTH EMBANKMENTS FOR UNDERCUTTING OR UNDESIRABLE SEEPAGE FLOWS.
- IDEALLY, ROCK FILTER DAMS SHOULD DISCHARGE (FROM FULL) OVER NO LESS THAN 8 HOURS. IF DRAINAGE IS TOO RAPID, THEN ADDITIONAL FILTER AGGREGATE MAYBE REQUIRED TO ACHIEVE OPTIMUM HYDRAULIC PERFORMANCE.
- IF FLOW THROUGH THE STRUCTURE IS REDUCED TO AN UNACCEPTABLE LEVEL, THE

UPSTREAM FILTER MEDIUM (AGGREGATE OR FILTER CLOTH) SHOULD BE REMOVED AND REPLACED.

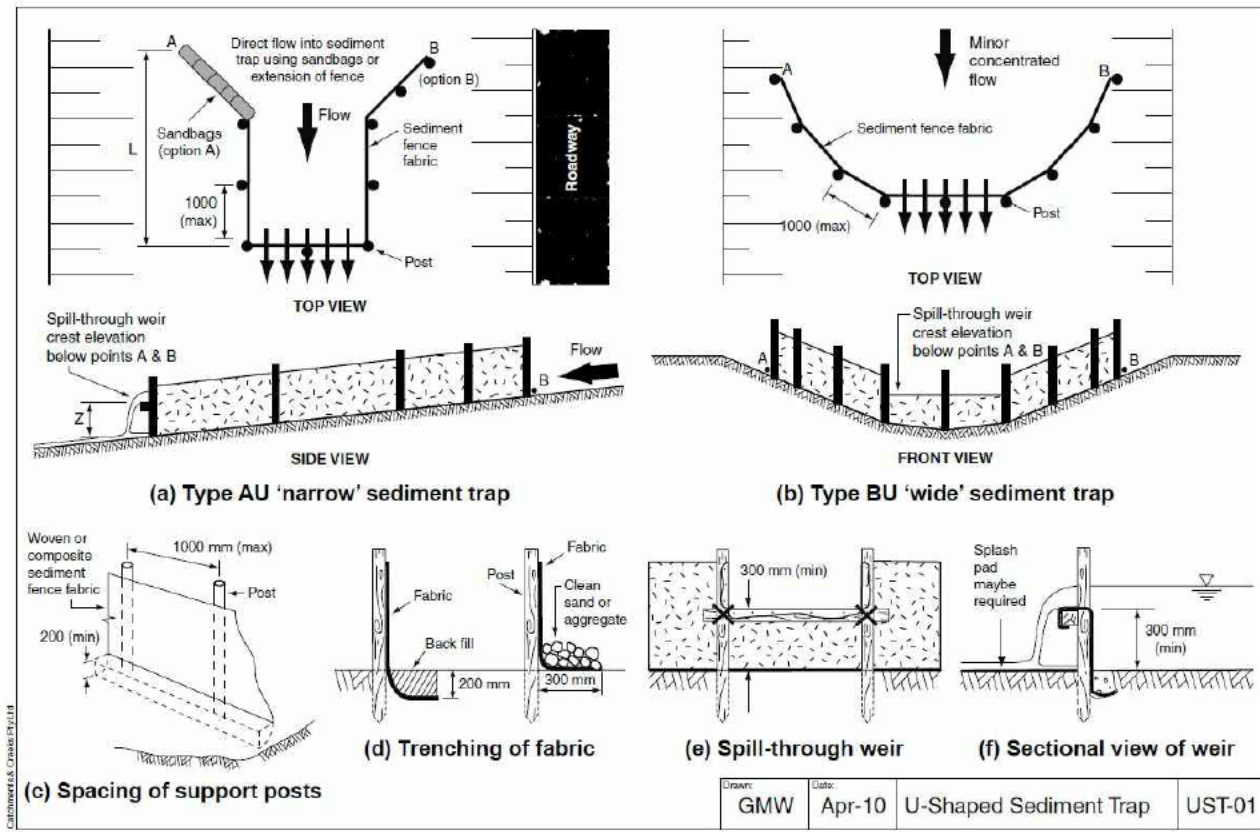
- IF A GREATER DEGREE OF WATER TREATMENT (FILTRATION) IS REQUIRED, EXTRA GEOTEXTILE FILTER FABRIC SHOULD BE PLACED OVER THE UPSTREAM FACE OF THE STRUCTURE.
- CHECK THE STRUCTURE AND DOWNSTREAM CHANNEL BANKS FOR DAMAGE FROM OVERTOPPING FLOWS. MAKE REPAIRS AS NECESSARY.
- IMMEDIATELY REPLACE ANY ROCK DISPLACED FROM THE SPILLWAY.
- REMOVE SEDIMENT AND RESTORE ORIGINAL SEDIMENT STORAGE VOLUME WHEN COLLECTED SEDIMENT EXCEEDS 10% OF THE SPECIFIED STORAGE VOLUME.
- DISPOSE OF SEDIMENT AND DEBRIS IN A MANNER THAT WILL NOT CREATE AN EROSION OR POLLUTION HAZARD.

REMOVAL

- WHEN THE UP-SLOPE DRAINAGE AREA HAS BEEN STABILISED, REMOVE ALL MATERIALS INCLUDED DEPOSITED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
- ALL WATER AND SEDIMENT SHOULD BE REMOVED FROM THE SETTLING POND PRIOR TO THE DAM'S REMOVAL. DISPOSE OF SEDIMENT AND WATER IN A MANNER THAT WILL NOT CREATE AN EROSION OR POLLUTION HAZARD.
- BRING THE DISTURBED AREA TO A PROPER GRADE, THEN SMOOTH, COMPACT AND STABILISE AND/OR REVEGETATE AS REQUIRED TO MINIMISE THE EROSION HAZARD.

INSTALLATION

Drawn: GMW	Date: Apr-10	Rock Filter Dam	RFD-02
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Drawn: GMW	Date: Apr-10	U-Shaped Sediment Trap	UST-01
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MATERIALS

FABRIC: POLYPROPYLENE, POLYAMIDE, NYLON, POLYESTER, OR POLYETHYLENE WOVEN OR NON-WOVEN FABRIC, AT LEAST 700mm IN WIDTH AND A MINIMUM UNIT WEIGHT OF 140g/m². ALL FABRICS TO CONTAIN ULTRAVIOLET INHIBITORS AND STABILISERS TO PROVIDE A MINIMUM OF 6 MONTHS OF USEABLE CONSTRUCTION LIFE (ULTRAVIOLET STABILITY EXCEEDING 70%).

FABRIC REINFORCEMENT: (IF USED) WIRE OR STEEL MESH MINIMUM 14-GAUGE WITH A MAXIMUM MESH SPACING OF 200mm.

SUPPORT POSTS/STAKES: 1500mm² (MIN) HARDWOOD, 2500mm² (MIN) SOFTWOOD, OR 1.5kg/m (MIN) STEEL STAR PICKETS SUITABLE FOR ATTACHING FABRIC.

INSTALLATION

- REFER TO APPROVED PLANS FOR LOCATION, EXTENT, AND REQUIRED TYPE OF FABRIC (IF SPECIFIED). IF THERE ARE QUESTIONS OR PROBLEMS WITH THE LOCATION, EXTENT, FABRIC TYPE, OR METHOD OF INSTALLATION CONTACT THE ENGINEER OR RESPONSIBLE ON-SITE OFFICER FOR ASSISTANCE.
- INSTALL THE FABRIC IN A U-SHAPE, EXTENDING THE WING WALLS EITHER UP THE SIDE SLOPES AND/OR UP THE CHANNEL INVERT (AS DIRECTED) TO A POINT WHERE THE GROUND LEVEL IS AT LEAST 100mm HIGHER THAN THE CREST OF THE SPILL-THROUGH WEIR.
- ENSURE THAT THE EXPECTED CHANNEL FLOW WILL ENTER THE SEDIMENT TRAP, EITHER BY EXTENDING THE WING WALLS UP THE BANK SLOPE, OR CONSTRUCTING SANDBAG FLOW DIVERSION BANKS.
- UNLESS DIRECTED BY THE SITE SUPERVISOR, EXCAVATE A 200mm WIDE BY 200mm DEEP TRENCH ALONG THE ALIGNMENT OF THE SPILL-THROUGH WEIR AND WING WALLS.
- ALONG THE LOWER SIDE OF THE TRENCH, APPROPRIATELY SECURE THE STAKES INTO THE GROUND SPACED NO GREATER THAN 1m.
- CONSTRUCT THE SEDIMENT TRAP FROM A CONTINUOUS ROLL OF FABRIC.
- SECURELY ATTACH THE FABRIC TO THE SUPPORT POSTS/STAKES USING 25mm STAPLES OR TIE WIRE AT MAXIMUM 150mm SPACING WITH THE FABRIC EXTENDED AT LEAST 200mm INTO THE TRENCH.
- INSTALL A SPILL-THROUGH WEIR AT THE LOWEST POINT IN THE FENCE. THE WEIR MUST BE AT LEAST 300mm ABOVE ADJACENT GROUND LEVEL, AND BELOW THE LOWEST GROUND LEVEL AT THE ENDS OF THE WING WALLS.
- SECURELY TIE A HORIZONTAL CROSS MEMBER (WEIR) TO THE ADJACENT SUPPORT POSTS. CUT THE FABRIC DOWN THE SIDE OF THE POSTS AND FOLD THE FABRIC OVER THE CROSS MEMBER AND APPROPRIATELY SECURE THE FABRIC.
- IF DIRECTED, INSTALL A SUITABLE SPLASH PAD IMMEDIATELY DOWN-SLOPE OF THE SPILL-THROUGH WEIR TO CONTROL SOIL EROSION DOWNSTREAM OF THE SEDIMENT TRAP.
- BACKFILL THE TRENCH AND TAMP THE FILL TO FIRMLY ANCHOR THE BOTTOM OF THE FABRIC AND MESH TO PREVENT WATER FROM FLOWING UNDER THE FENCE.

MAINTENANCE

- INSPECT THE SEDIMENT TRAP AT LEAST WEEKLY AND AFTER ANY SIGNIFICANT RAIN. MAKE NECESSARY REPAIRS IMMEDIATELY.
- REPAIR ANY TORN SECTIONS WITH A CONTINUOUS PIECE OF FABRIC FROM POST TO POST.
- WHEN MAKING REPAIRS, ALWAYS RESTORE THE SYSTEM TO ITS ORIGINAL CONFIGURATION UNLESS AN AMENDED LAYOUT IS REQUIRED OR SPECIFIED.
- IF THE FABRIC IS SAGGING BETWEEN STAKES, INSTALL ADDITIONAL SUPPORT POSTS/STAKES.
- REMOVE ACCUMULATED SEDIMENT IF THE SEDIMENT DEPOSIT EXCEEDS A DEPTH OF 150mm.
- DISPOSE OF SEDIMENT IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
- REPLACE THE FABRIC IF THE SERVICE LIFE OF THE EXISTING FABRIC EXCEEDS SIX MONTHS.

REMOVAL

- WHEN DISTURBED AREAS UP-SLOPE OF THE SEDIMENT TRAP ARE SUFFICIENTLY STABILISED TO RESTRAIN EROSION, THE SEDIMENT TRAP MUST BE REMOVED.
- REMOVE MATERIALS AND COLLECTED SEDIMENT AND DISPOSE OF IN A SUITABLE MANNER THAT WILL NOT CAUSE AN EROSION OR POLLUTION HAZARD.
- REHABILITATE/REVEGETATE THE DISTURBED GROUND AS NECESSARY TO MINIMISE THE EROSION HAZARD.

Drawn: GMW	Date: Apr-10	U-Shaped Sediment Trap	UST-02
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DRAWN BY	L.O.
FINAL APPROVAL	A.M.
SCALE:	N.A.
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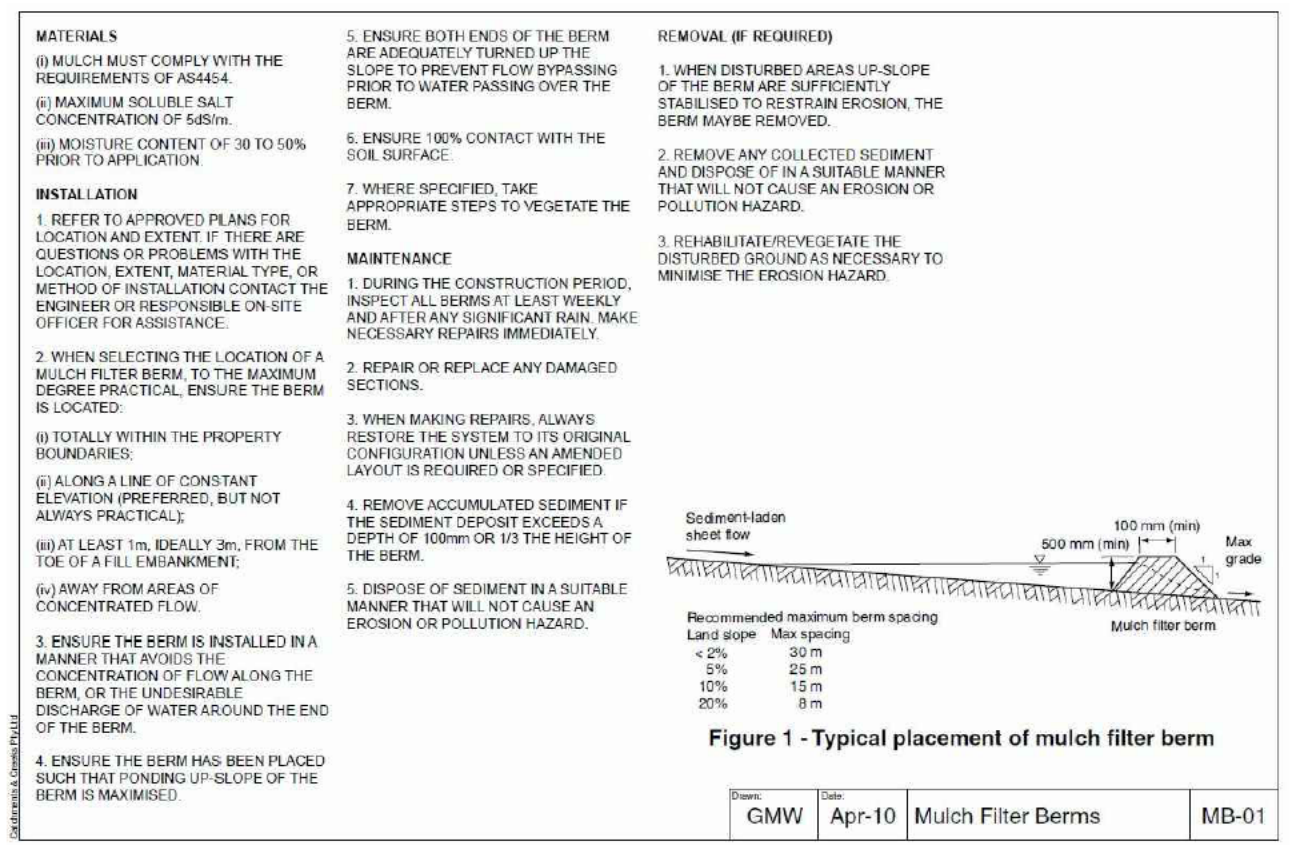
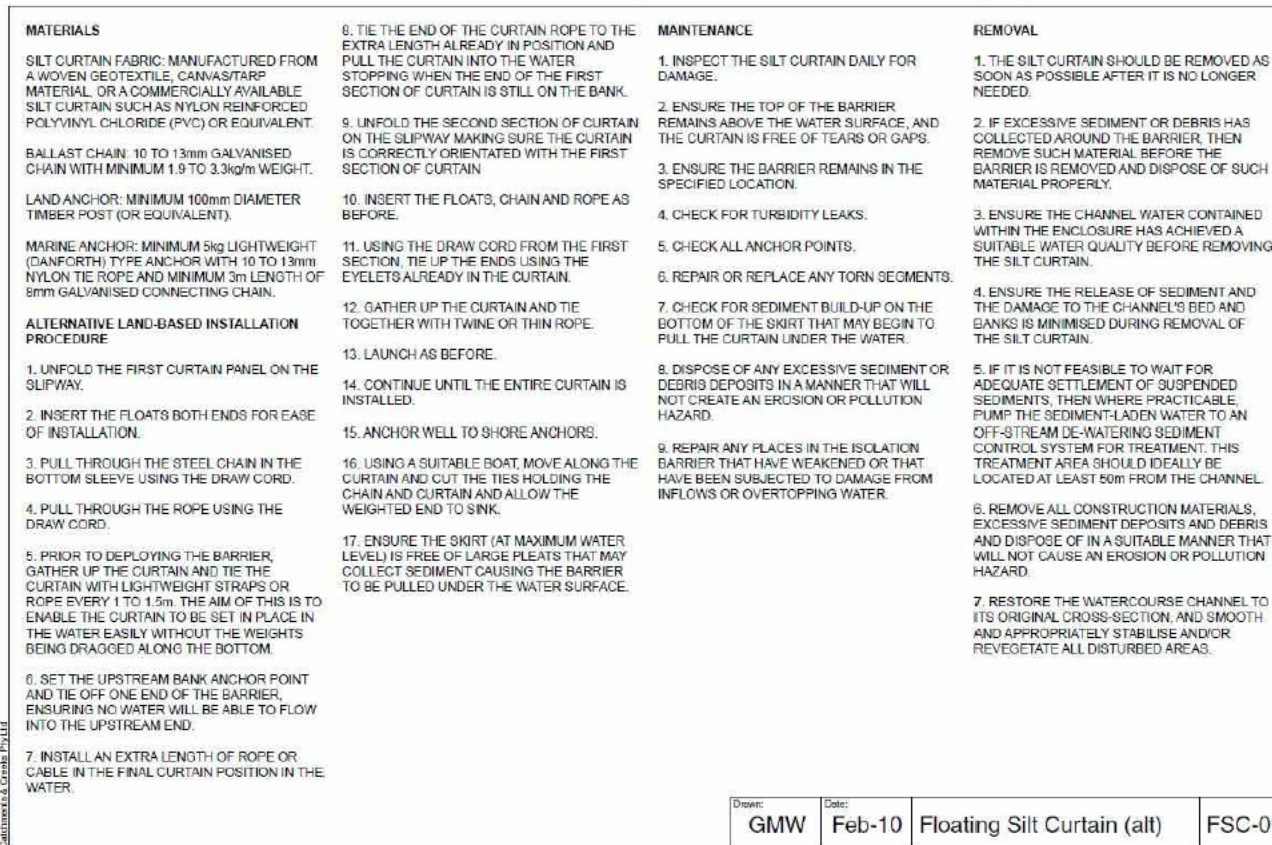
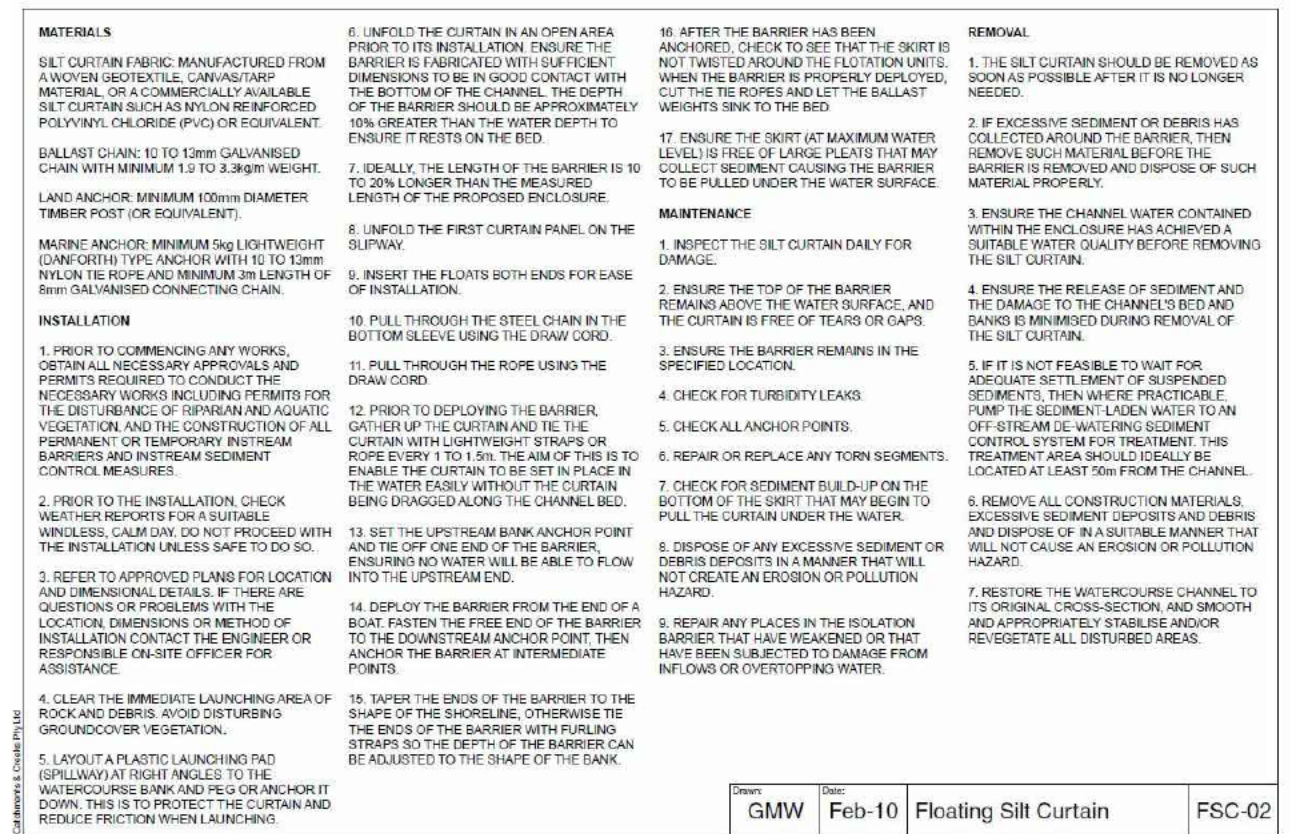
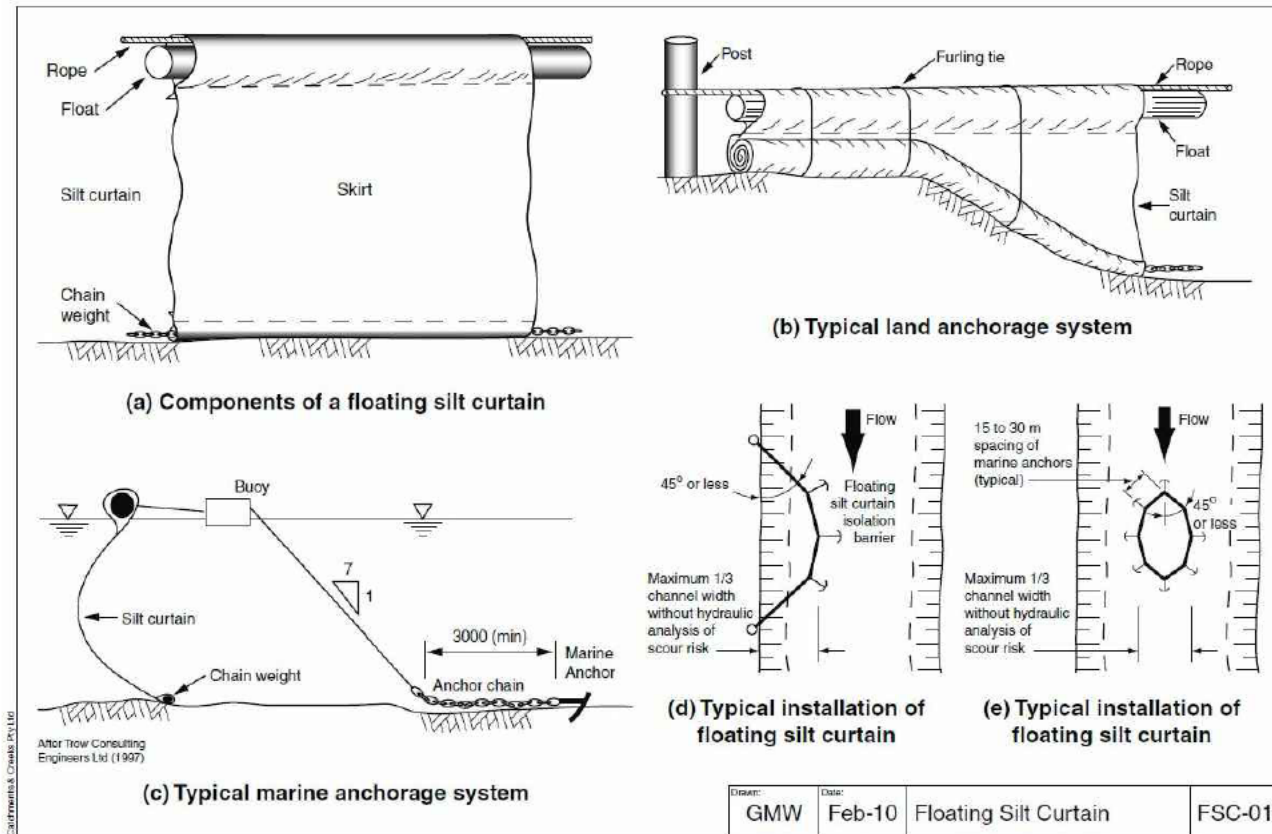


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PROJECT TITLE

**ALBION PARK RAIL BYPASS
 PRINCES HIGHWAY UPGRADE
 FROM DUCK CREEK TO THE
 OAK FLATS INTERCHANGE**

DRAWING TITLE			
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PROJECT NO.	SUB-PR NO.	DRAWING NO.	REV
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PILING PLATFORM IN/NEAR WATERCOURSE - TYPICAL DETAIL

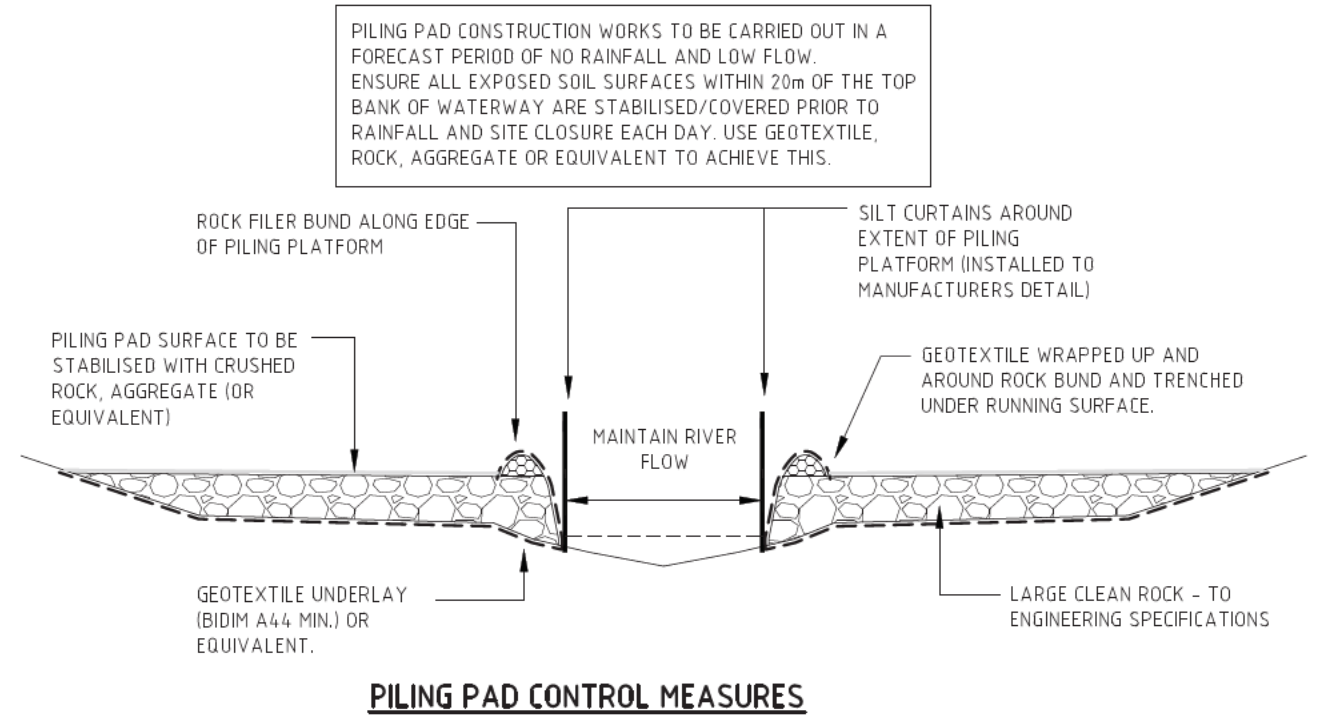
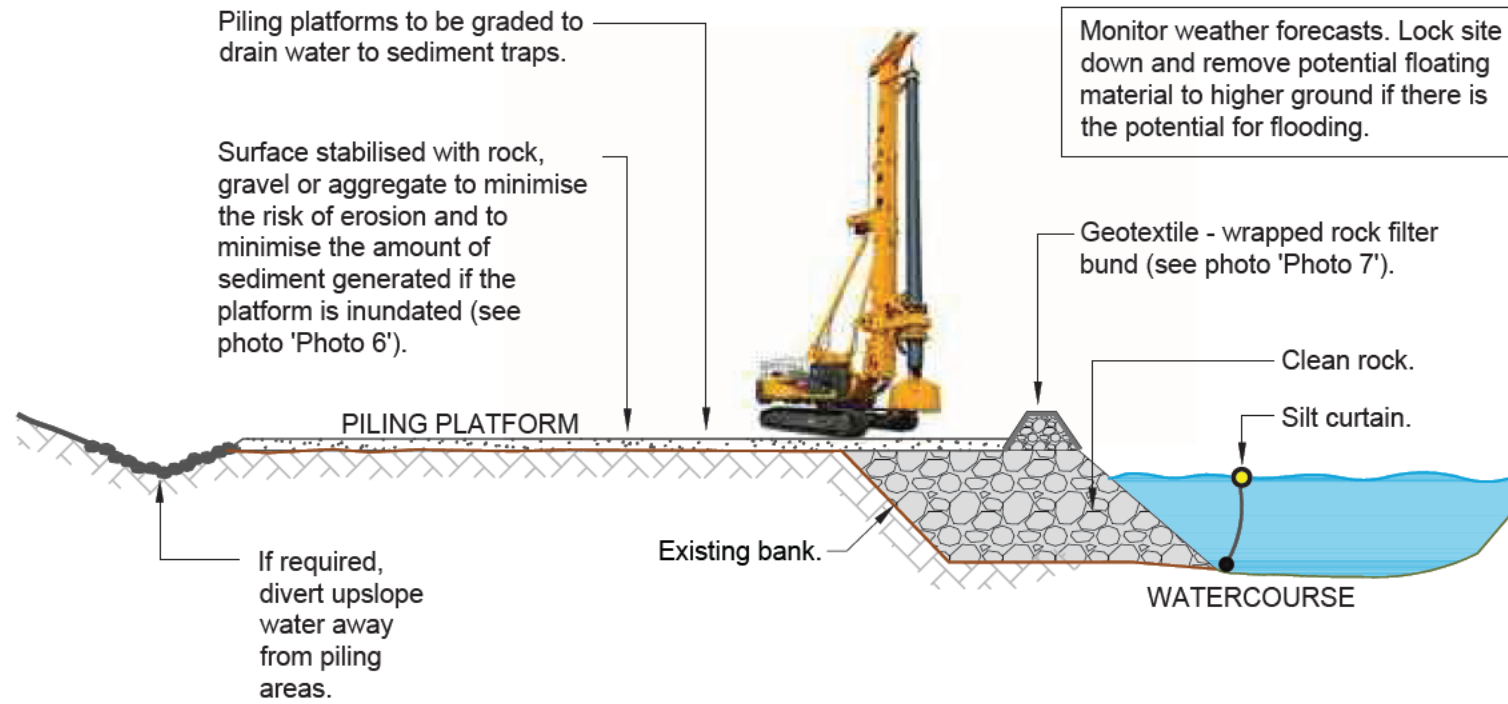


PHOTO 6 - EXAMPLE OF A PILING PLATFORM STABILISED SURFACE



PHOTO 7 - EXAMPLE OF A PILING PLATFORM WITH ROCK FILTER BUND

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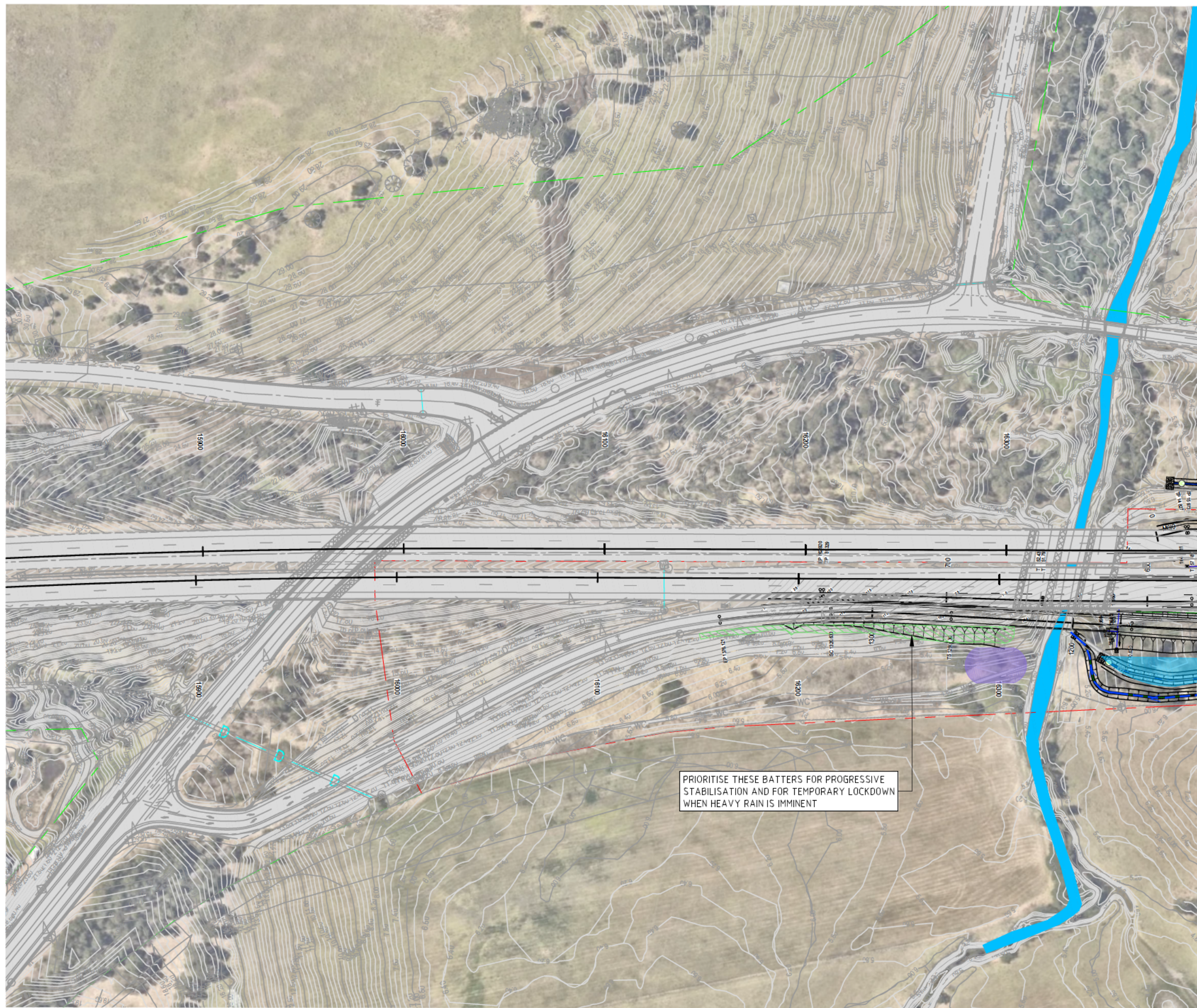
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PRIMARY ESCP TYPICAL DETAILS AND PHOTO EXAMPLES			
PROJECT NO.	SUB-PR NO.	DRAWING NO.	REV
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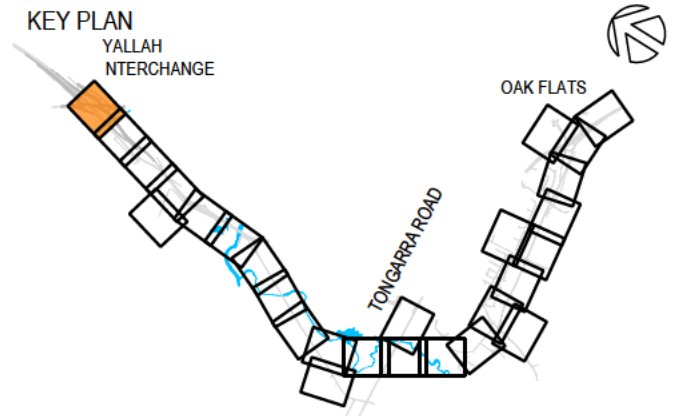
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- SILT CURTAIN
- HERITAGE SITE



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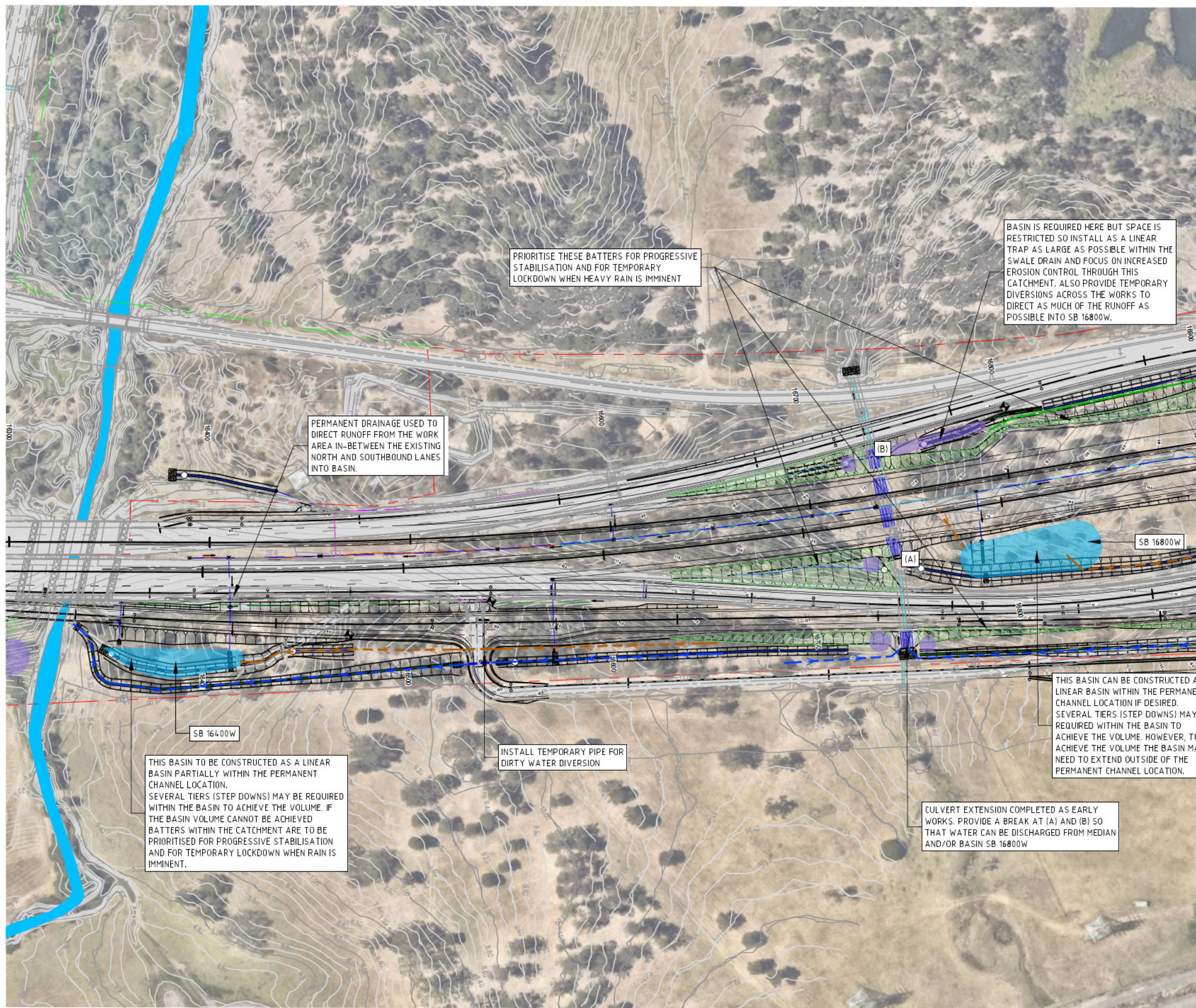
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PRIORITISE THESE BATTERS FOR PROGRESSIVE STABILISATION AND FOR TEMPORARY LOCKDOWN WHEN HEAVY RAIN IS IMMINENT

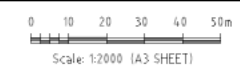
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					DRAWN BY	L.O.								
					FINAL APPROVAL	A.M.								
					SCALE: (on A3 Original)	1:2000								
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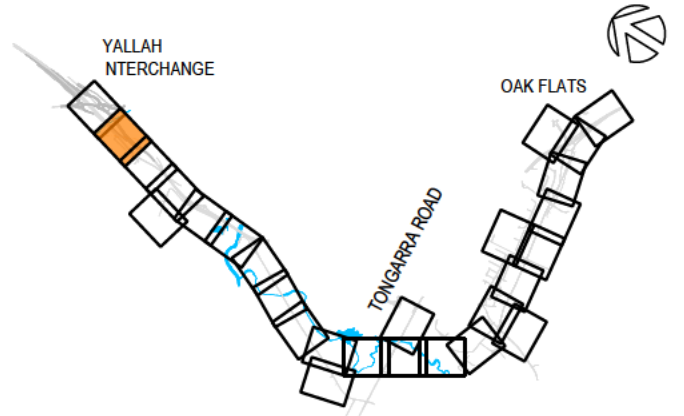
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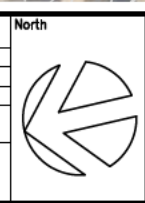
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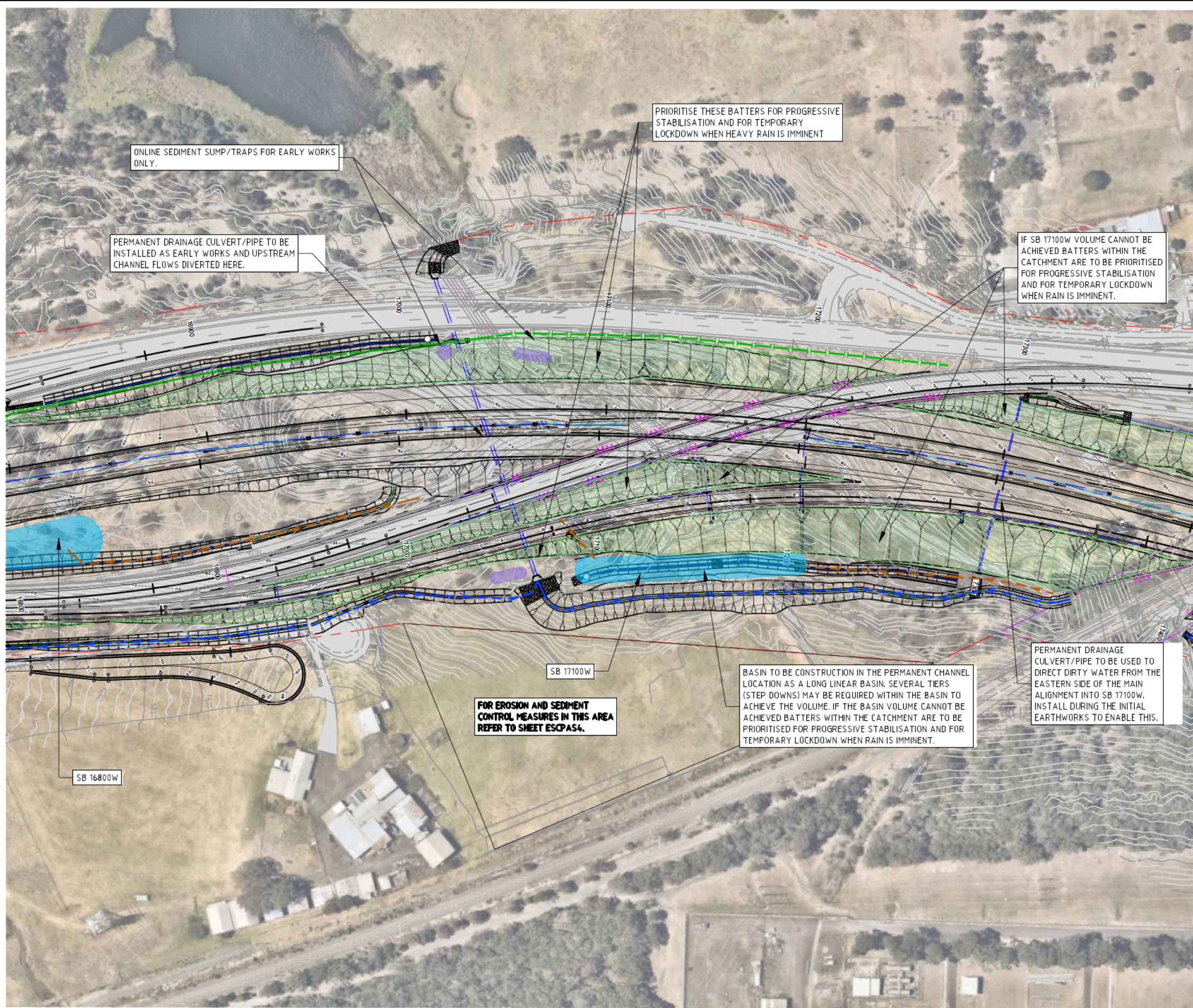
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PROJECT TITLE

**ALBION PARK RAIL BYPASS
 PRINCES HIGHWAY UPGRADE
 FROM DUCK CREEK TO THE
 OAK FLATS INTERCHANGE**

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PRIMARY EROSION AND SEDIMENT CONTROL PLAN			
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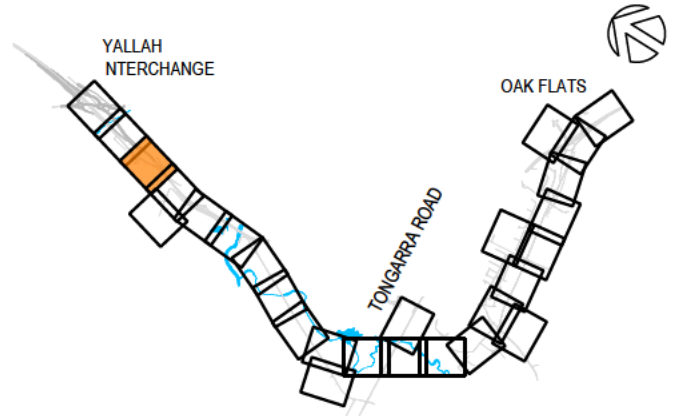
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- SILT CURTAIN
- HERITAGE SITE

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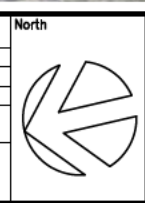
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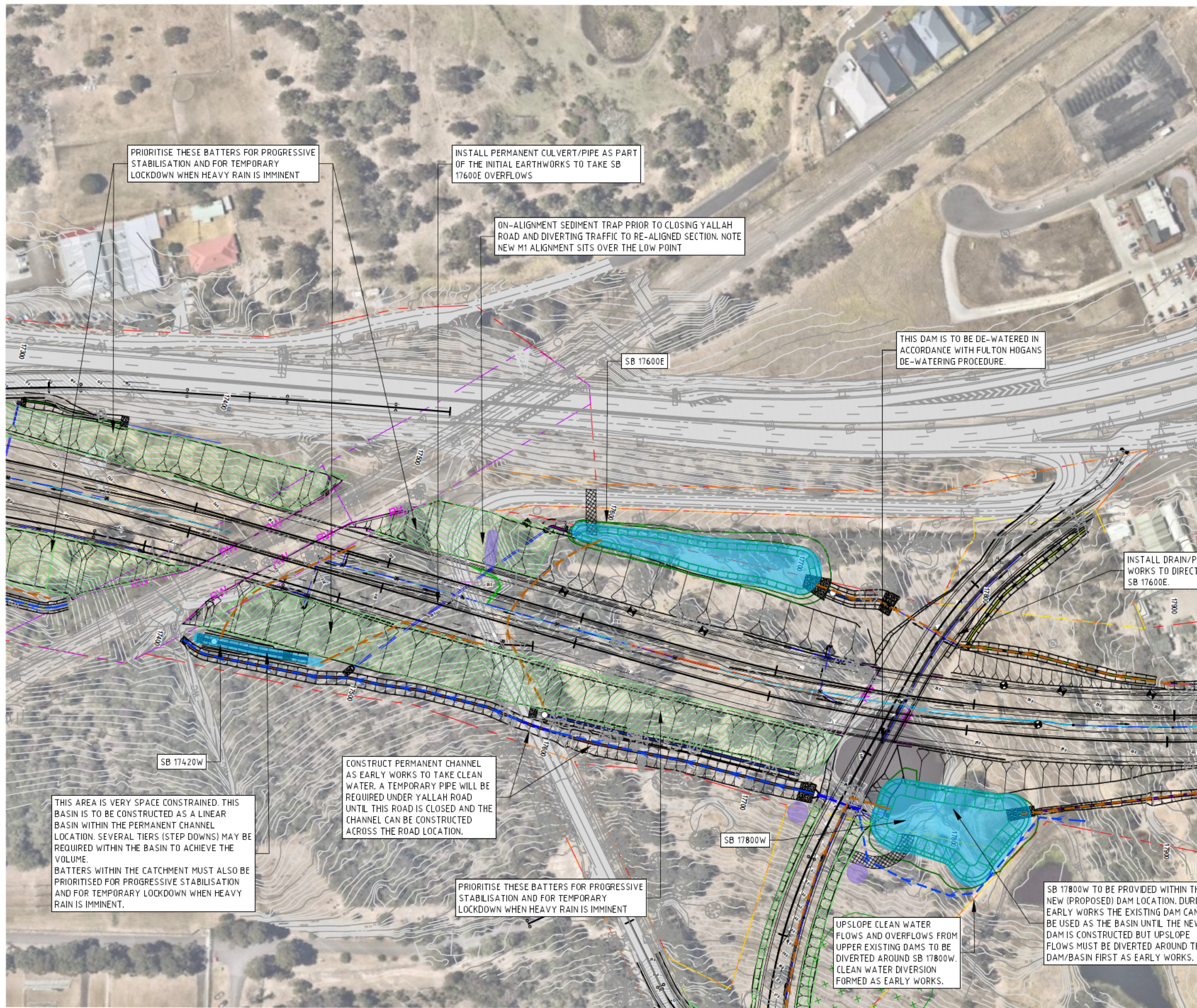
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PROJECT TITLE

**ALBION PARK RAIL BYPASS
PRINCES HIGHWAY UPGRADE
FROM DUCK CREEK TO THE
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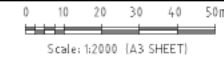
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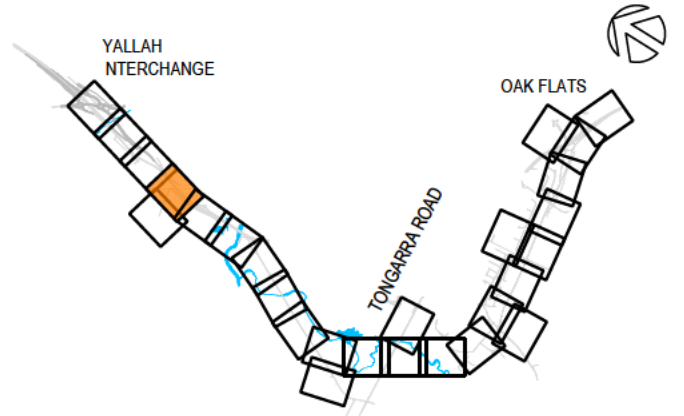
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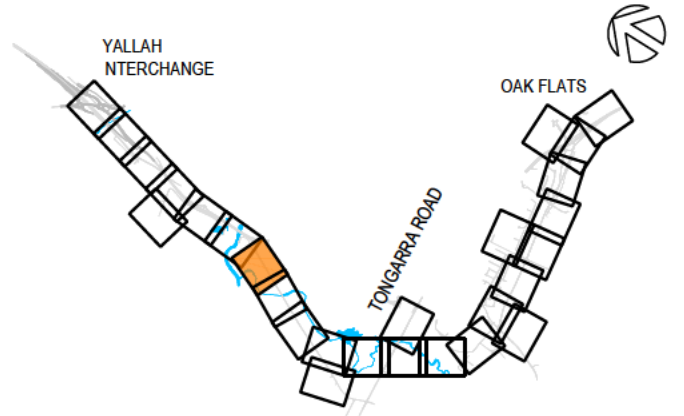
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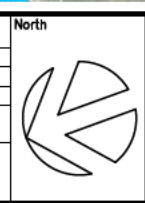
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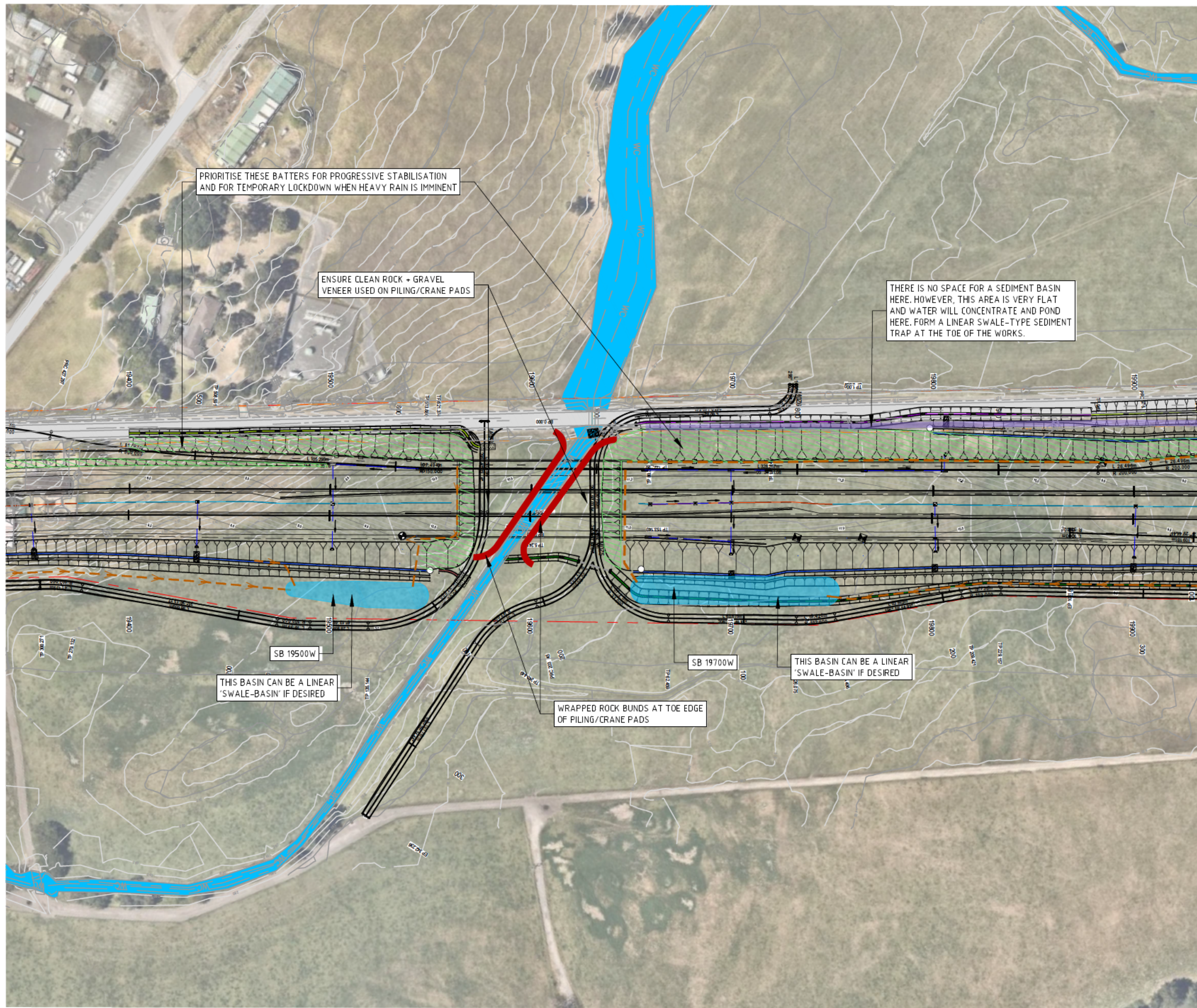


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PRIMARY EROSION AND SEDIMENT CONTROL PLAN			
PROJECT NO.	SUB-PR NO.	DRAWING NO.	REV
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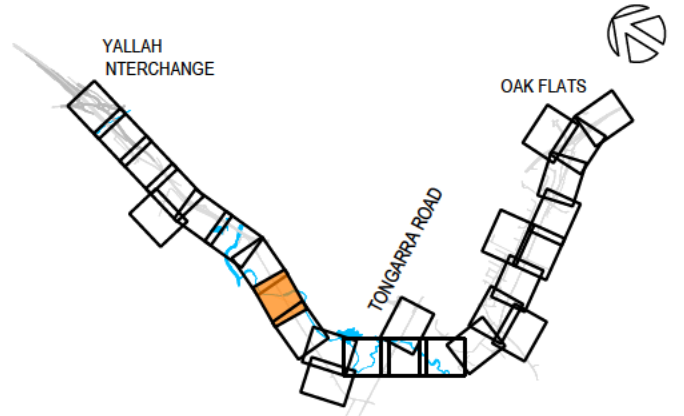
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- SILT CURTAIN
- HERITAGE SITE



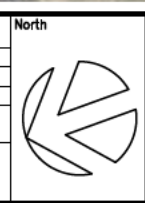
THE DETAILS SHOWN WITHIN THESE EROSION AND SEDIMENT CONTROL PLANS (ESCPs) ARE PRIMARY STAGE EROSION AND SEDIMENT CONTROL REQUIREMENTS ONLY. ONLY MAJOR PRIMARY CONTROLS ARE SHOWN. ALL MINOR CONTROLS AND PROGRESSIVE CONTROLS WILL NEED TO BE DETAILED ON CONSTRUCTION STAGE PROGRESSIVE ESCPs WHICH WILL NEED TO BE DEVELOPED PRIOR TO CONSTRUCTION.

REFER TO DRAWINGS 17000301_P02_ESCP0000-0008 FOR GENERAL REQUIREMENTS, SEDIMENT BASIN SIZING REQUIREMENTS AND TYPICAL DETAILS AND PHOTOS.



REV	DATE	DES.	DRN.	APP.	REVISION DETAILS
00	14/01/19	A.T.	A.T.	A.M.	ISSUE FOR CONSTRUCTION USE
A	13/12/18	A.T.	A.T.	A.M.	DRAFT - FOR CONSULTATION

DRAWING STATUS	
DESIGN BY	A.T.
DRAWN BY	L.O.
FINAL APPROVAL	A.M.
SCALE:	1:2000
(on A3 Original)	
FINAL	



CLIENT

PO Box 1098, Bowral, NSW 2576
 Suites 7 & 8, 68-70 Station Street
 Bowral NSW 2576.
 (t) 02 4862 1633
 (f) 02 4862 3088
 email: reception@seec.com.au
 WWW.SEEC.COM.AU

PROJECT TITLE

**ALBION PARK RAIL BYPASS
 PRINCES HIGHWAY UPGRADE
 FROM DUCK CREEK TO THE
 OAK FLATS INTERCHANGE**

DRAWING TITLE			
PRIMARY EROSION AND SEDIMENT CONTROL PLAN			
PROJECT NO.	SUB-PR NO.	DRAWING NO.	REV
17000301	P02	ESCP0108	00

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