



KEY:

SEDIMENT RETENTION POND	
DRAINAGE SWALE	
EARTH/TOPSOIL BUND	
DIRTY WATER DIVERSION	
SILT FENCE	
SUPER SILT FENCE	
DECANT	
SRP CATCHMENT AREA	
ROCK FILTERS	
CULVERT	
FUTURE SW DEVICE	
CYCLEWAY	

NOTES

1. CATCHMENT 1 (CYAN) = 2520 m²
2. CATCHMENT 2 (PURPLE) = 2730 m²

NOTES:

Original Scale (A3)		1:2000	
1	AEE LODGEMENT	GJR	15.03.12
Revision:	Amendment:	Approved:	Date:

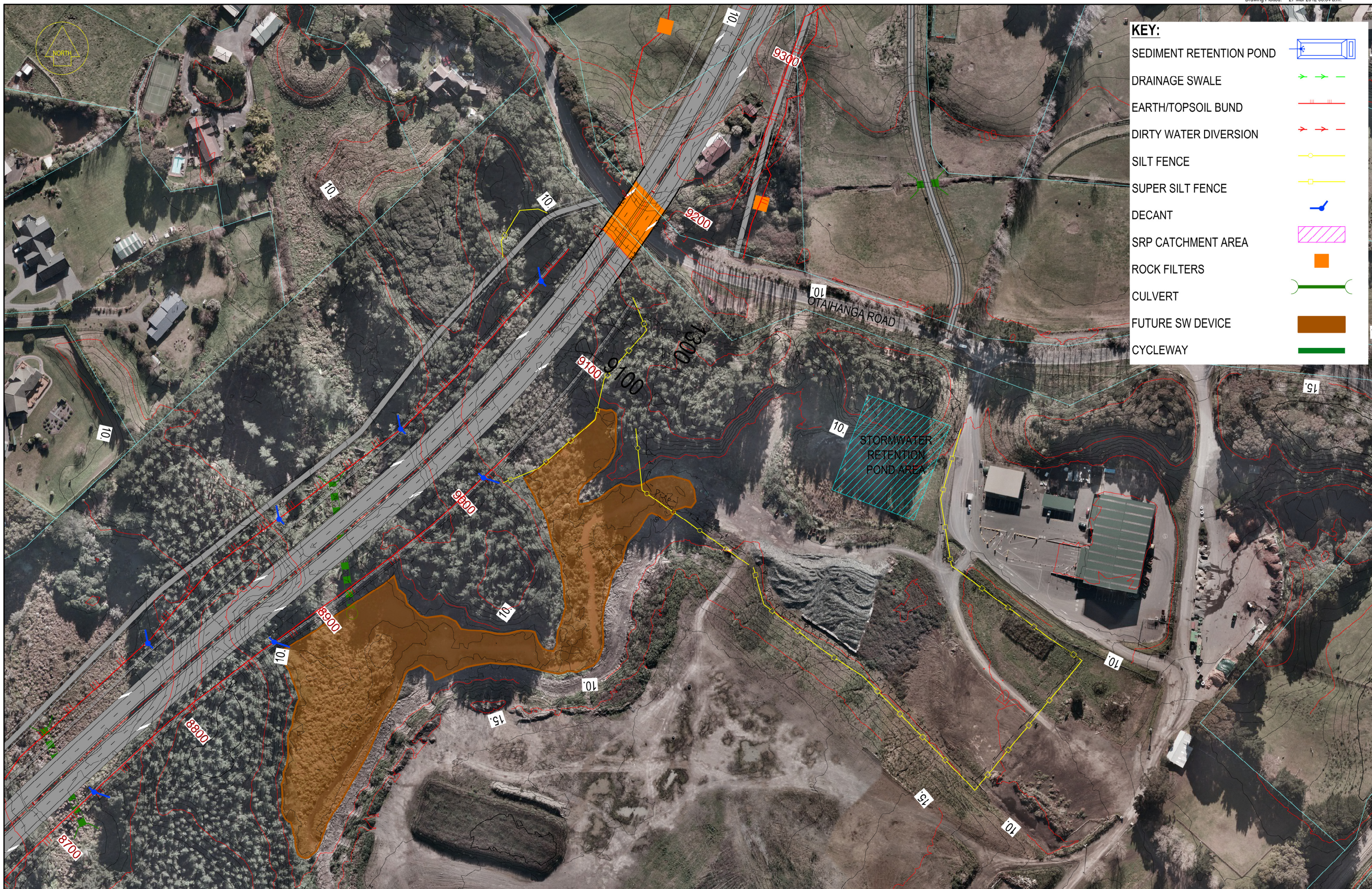


Project: MACKAYS TO PEKA PEKA EXPRESSWAY

Title: EROSION & SEDIMENT CONTROL
OTAIHANGA ROUNDABOUT

Status: -

Document ID: M2PP-AEE-DWG	Rev:
Drawing No: CV-CM-231	1



KEY:

SEDIMENT RETENTION POND	
DRAINAGE SWALE	
EARTH/TOPSOIL BUND	
DIRTY WATER DIVERSION	
SILT FENCE	
SUPER SILT FENCE	
DECANT	
SRP CATCHMENT AREA	
ROCK FILTERS	
CULVERT	
FUTURE SW DEVICE	
CYCLEWAY	

NOTES:
 1. EXISTING POND WILL REMAIN AND WILL BE UTILISED AS A SEDIMENT RETENTION POND FOR THE YARD AREA WITH ASSOCIATED OUTLET DESIGN DETAIL AMENDMENTS.

Original Scale (A3)
 1:2000

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Project: **MACKAYS TO PEKA PEKA EXPRESSWAY**

Title: **EROSION & SEDIMENT CONTROL PLAN
 OTAIHANGA YARD**

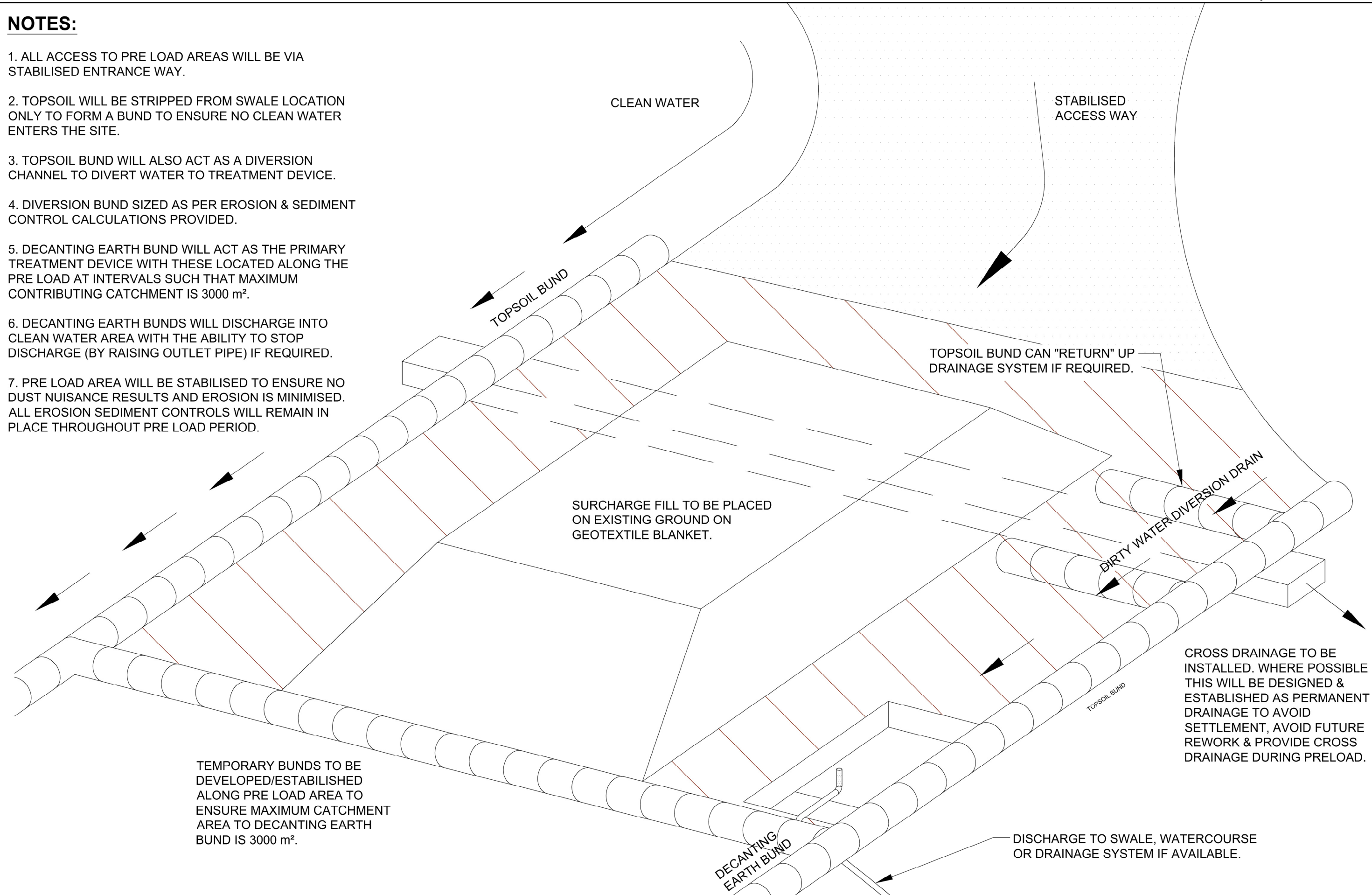
Status: -

Document ID: M2PP-AEE-DWG Rev: -

Drawing No: **CV-CM-234** 1

NOTES:

1. ALL ACCESS TO PRE LOAD AREAS WILL BE VIA STABILISED ENTRANCE WAY.
2. TOPSOIL WILL BE STRIPPED FROM SWALE LOCATION ONLY TO FORM A BUND TO ENSURE NO CLEAN WATER ENTERS THE SITE.
3. TOPSOIL BUND WILL ALSO ACT AS A DIVERSION CHANNEL TO DIVERT WATER TO TREATMENT DEVICE.
4. DIVERSION BUND SIZED AS PER EROSION & SEDIMENT CONTROL CALCULATIONS PROVIDED.
5. DECANTING EARTH BUND WILL ACT AS THE PRIMARY TREATMENT DEVICE WITH THESE LOCATED ALONG THE PRE LOAD AT INTERVALS SUCH THAT MAXIMUM CONTRIBUTING CATCHMENT IS 3000 m².
6. DECANTING EARTH BUNDS WILL DISCHARGE INTO CLEAN WATER AREA WITH THE ABILITY TO STOP DISCHARGE (BY RAISING OUTLET PIPE) IF REQUIRED.
7. PRE LOAD AREA WILL BE STABILISED TO ENSURE NO DUST NUISANCE RESULTS AND EROSION IS MINIMISED. ALL EROSION SEDIMENT CONTROLS WILL REMAIN IN PLACE THROUGHOUT PRE LOAD PERIOD.



TEMPORARY BUNDS TO BE DEVELOPED/ESTABLISHED ALONG PRE LOAD AREA TO ENSURE MAXIMUM CATCHMENT AREA TO DECANTING EARTH BUND IS 3000 m².

TOPSOIL BUND CAN "RETURN" UP DRAINAGE SYSTEM IF REQUIRED.

CROSS DRAINAGE TO BE INSTALLED. WHERE POSSIBLE THIS WILL BE DESIGNED & ESTABLISHED AS PERMANENT DRAINAGE TO AVOID SETTLEMENT, AVOID FUTURE REWORK & PROVIDE CROSS DRAINAGE DURING PRELOAD.

DISCHARGE TO SWALE, WATERCOURSE OR DRAINAGE SYSTEM IF AVAILABLE.

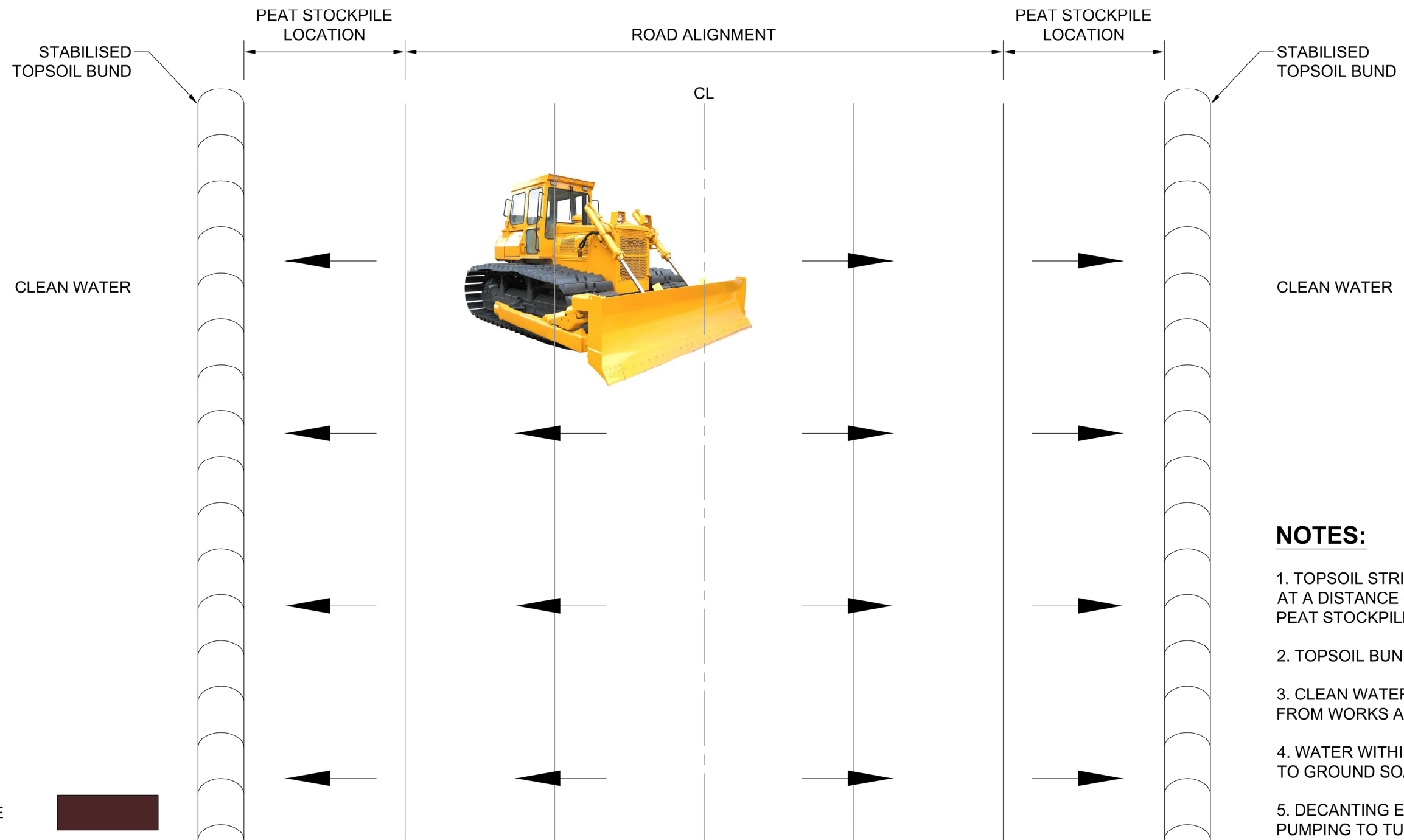
SURCHARGE FILL TO BE PLACED ON EXISTING GROUND ON GEOTEXTILE BLANKET.

NOTES:	
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Project: MACKAYS TO PEKA PEKA EXPRESSWAY	
Title: EROSION & SEDIMENT CONTROL PRELOAD CONCEPTUAL PLAN	
Status: -	Rev. -
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Drawing No: CV-CM-244	1



LEGEND

- PEAT STOCKPILE
- PEAT EXCAVATION
- SAND PLACEMENT

NOTES:

1. TOPSOIL STRIPPED TO FORM BUND AT A DISTANCE CLEAR OF FUTURE PEAT STOCKPILE.
2. TOPSOIL BUND STABILISED.
3. CLEAN WATER DIVERTED AWAY FROM WORKS AREA
4. WATER WITHIN BUND CONTAINED TO GROUND SOAKAGE.
5. DECANTING EARTH BUND AND/OR PUMPING TO TURKEYS NEST WILL OCCUR AS REQUIRED.

STEP 1

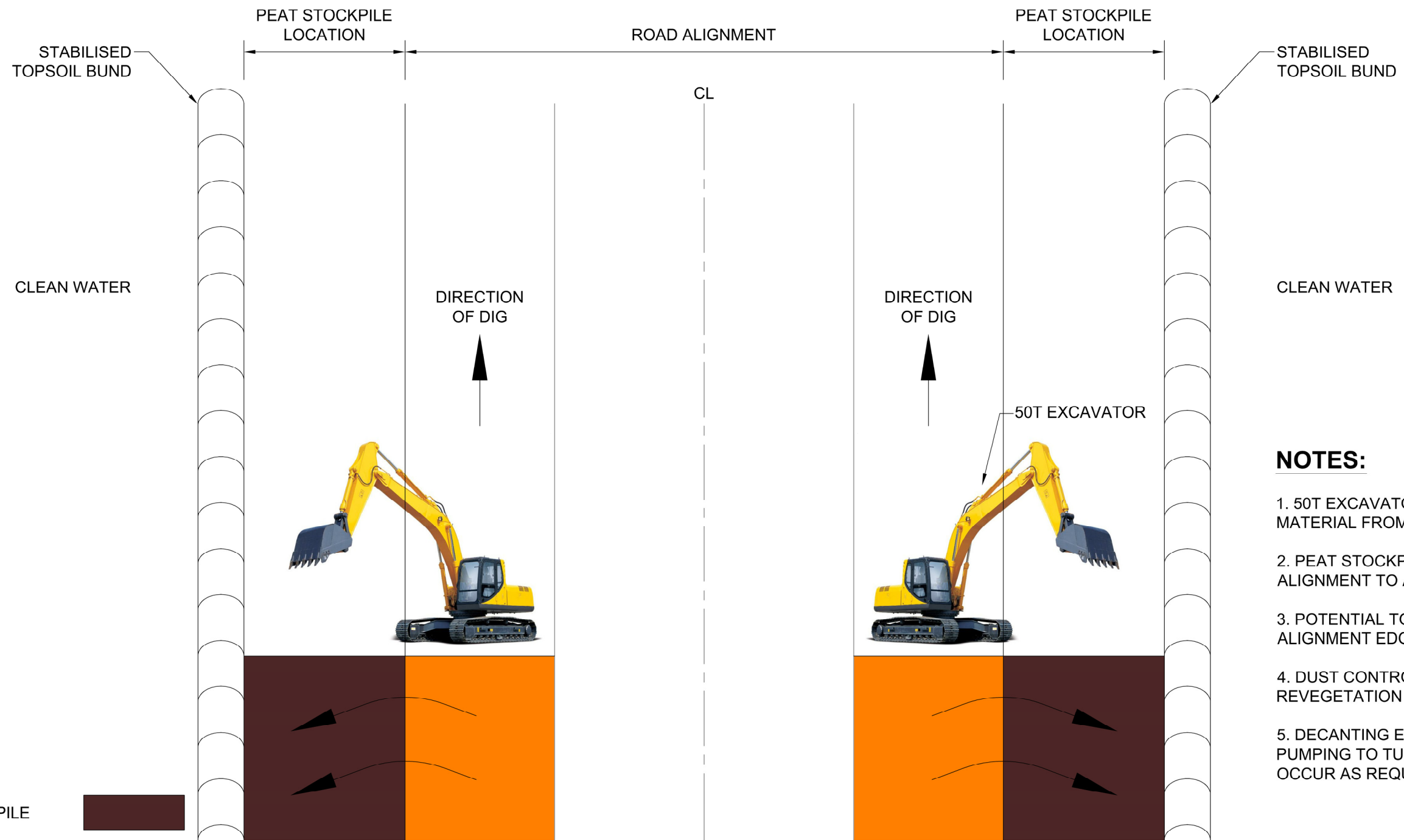
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Project: MACKAYS TO PEKA PEKA EXPRESSWAY	
Title: EROSION & SEDIMENT CONTROL PEAT REPLACEMENT METHODOLOGY STAGE 1	
Status: -	Rev. -
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Drawing No: CV-CM-240	1



NOTES:

1. 50T EXCAVATOR REMOVING PEAT MATERIAL FROM ALIGNMENT.
2. PEAT STOCKPILED ADJACENT TO ALIGNMENT TO ALLOW DRYING.
3. POTENTIAL TO WORK FROM BOTH ALIGNMENT EDGES CONCURRENTLY.
4. DUST CONTROL THROUGH REVEGETATION AND WATER CARTS.
5. DECANTING EARTH BUND AND/OR PUMPING TO TURKEYS NEST WILL OCCUR AS REQUIRED.

LEGEND

- PEAT STOCKPILE
- PEAT EXCAVATION
- SAND PLACEMENT

STEP 2

NOTES:

Original Scale (A3)

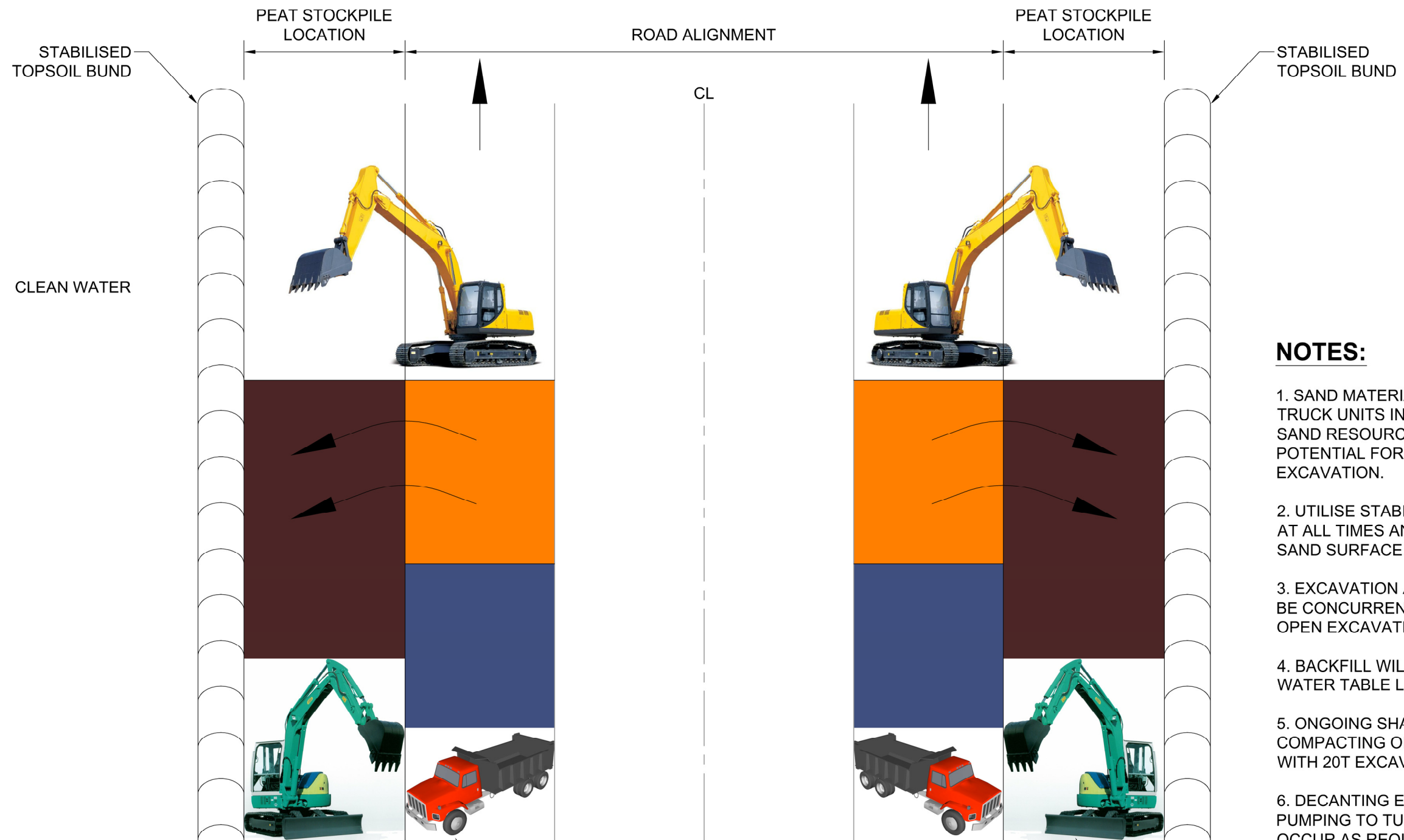
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MACKAYS TO PEKA PEKA EXPRESSWAY

EROSION & SEDIMENT CONTROL
PEAT REPLACEMENT METHODOLOGY
STAGE 2

Project: MACKAYS TO PEKA PEKA EXPRESSWAY
Title: EROSION & SEDIMENT CONTROL
PEAT REPLACEMENT METHODOLOGY
STAGE 2
Status: -
Document ID: M2PP-AEE-DWG
Drawing No: CV-CM-241
Rev: 1



NOTES:

1. SAND MATERIAL END DUMPED FROM TRUCK UNITS INTO EXCAVATION OR IF SAND RESOURCE AVAILABLE POTENTIAL FOR "PUSHING" SAND INTO EXCAVATION.
2. UTILISE STABILISED ROAD ACCESS AT ALL TIMES AND BACKFILLED WITH SAND SURFACE.
3. EXCAVATION AND BACKFILLING WILL BE CONCURRENT SUCH THAT NO OPEN EXCAVATION AT END OF DAY.
4. BACKFILL WILL BE TO A MINIMUM OF WATER TABLE LEVEL.
5. ONGOING SHAPING AND COMPACTING OF PEAT STOCKPILE WITH 20T EXCAVATOR.
6. DECANTING EARTH BUND AND/OR PUMPING TO TURKEYS NEST WILL OCCUR AS REQUIRED.

LEGEND

- PEAT STOCKPILE
- PEAT EXCAVATION
- SAND PLACEMENT

SAND MATERIAL END DUMPED FROM TRUCK UNITS

20T EXCAVATOR SHAPING AND COMPACTING PEAT

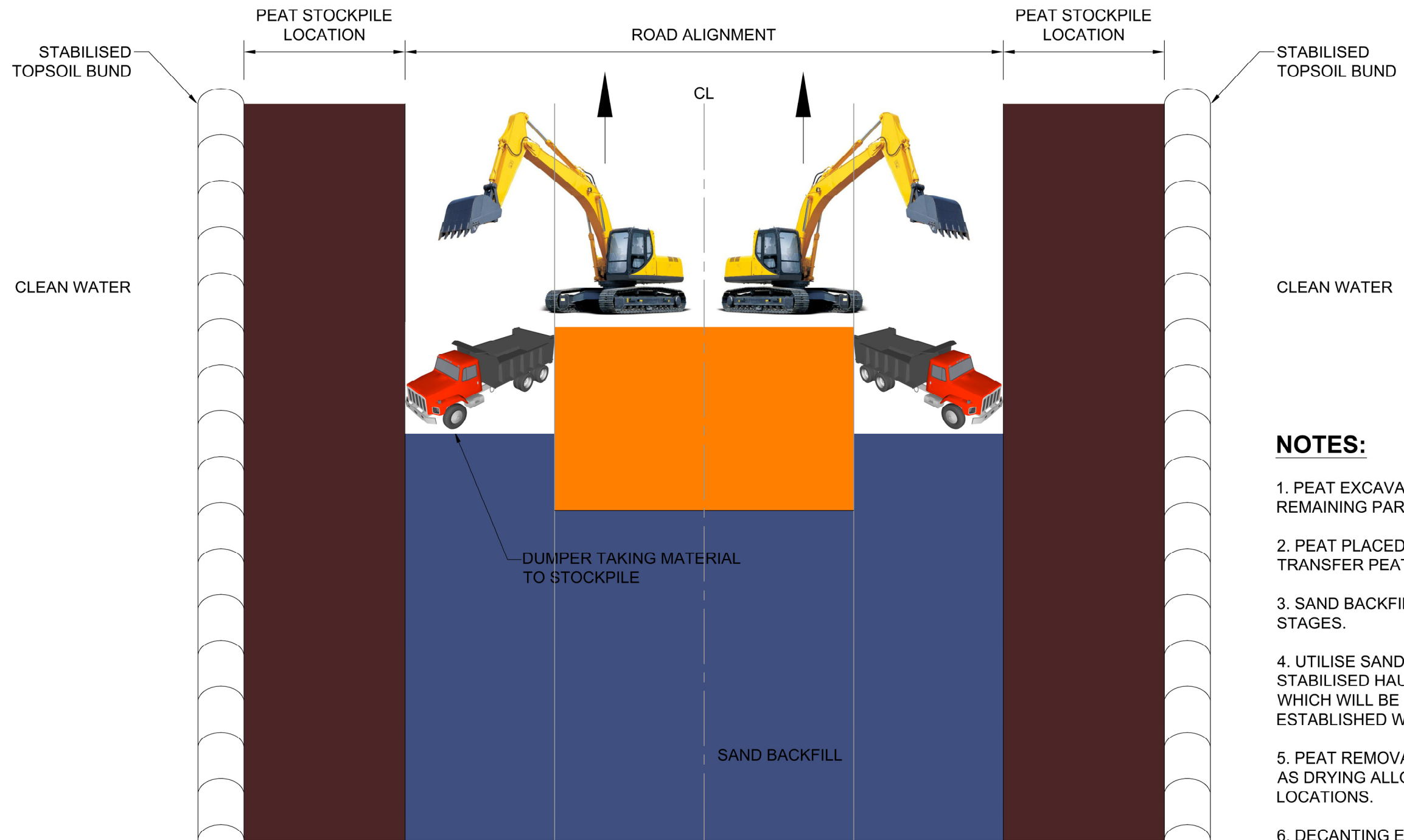
STEP 3

NOTES:

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Project: MACKAYS TO PEKA PEKA EXPRESSWAY	
Title: EROSION & SEDIMENT CONTROL PEAT REPLACEMENT METHODOLOGY STAGE 3	
Status: -	Rev. 1
Document ID: M2PP-AEE-DWG	Drawing No: CV-CM-242



NOTES:

1. PEAT EXCAVATION COMMENCES ON REMAINING PART OF THE ALIGNMENT.
2. PEAT PLACED IN DUMPERS WHICH TRANSFER PEAT TO STOCKPILE.
3. SAND BACKFILL AS PER PREVIOUS STAGES.
4. UTILISE SAND PLATFORM AS STABILISED HAUL ROAD AT ALL TIMES WHICH WILL BE PROGRESSIVELY ESTABLISHED WITH HARDFILL.
5. PEAT REMOVAL FROM STOCKPILES AS DRYING ALLOWS TO AUTHORISED LOCATIONS.
6. DECANTING EARTH BUND AND/OR PUMPING TO TURKEYS NEST WILL OCCUR AS REQUIRED.

LEGEND

- PEAT STOCKPILE
- PEAT EXCAVATION
- SAND PLACEMENT

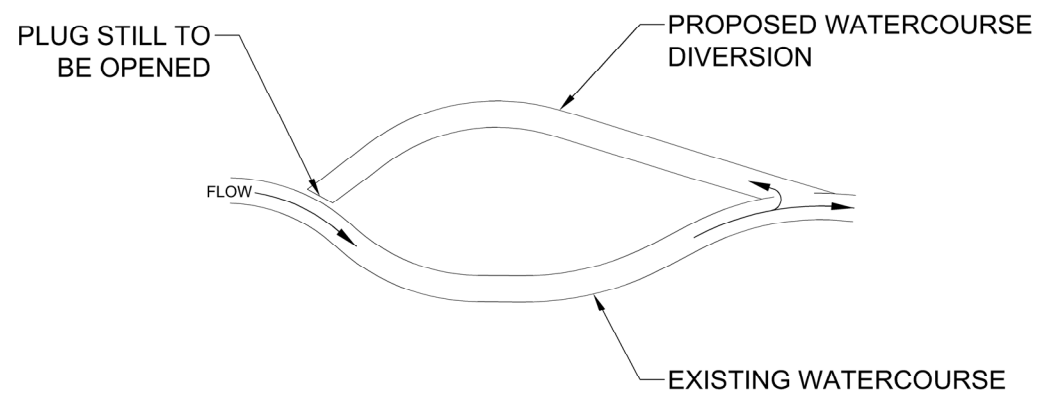
STEP 4

NOTES:

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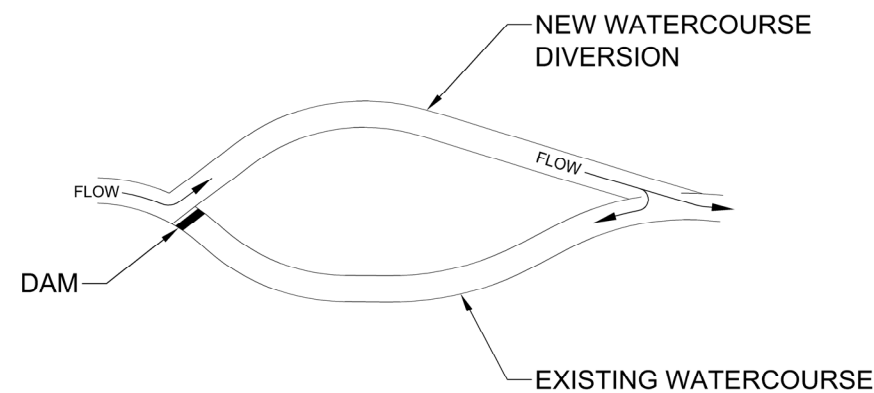
Project: MACKAYS TO PEKA PEKA EXPRESSWAY	
Title: EROSION & SEDIMENT CONTROL PEAT REPLACEMENT METHODOLOGY STAGE 4	
Status: -	Rev. 1
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STEP 1

STEP 1 METHODOLOGY

1. PLAN WORKS TO OCCUR OVER THE SUMMER PERIOD OF LOW STREAM FLOWS AND OUTSIDE FISH MIGRATION PERIOD.
2. STREAM DIVERSION WITH STABILISED FLOW PATH ESTABLISHED DURING TIMES OF FLOOD EVENTS.
3. EXCAVATE DIVERSION IN "DRY". DIVERSION CHANNEL LINED WITH GEOTEXTILE TO ENSURE NO SCOUR.
4. ENSURE PRIOR TO "OPENING" UP THE DIVERSION TO STREAM FLOWS THAT DIVERSION IS FULLY STABILISED.



STEP 2

STEP 2 METHODOLOGY

1. UTILISING AN EROSION PROOF COFFER DAM PLUG THE ORIGINAL CHANNEL SUCH THAT FLOWS CAN FLOW NEW DIVERSION.
2. UNDERTAKE FISH RECOVERY PROGRAMME FROM ORIGINAL CHANNEL PRIOR TO "ISOLATING" ORIGINAL CHANNEL.

NOTES:

1. SPECIFIC STREAM DIVERSION METHODOLOGY AND SIZING WILL BE DEVELOPED PRIOR TO WORKS COMMENCEMENT AND APPROVED AND DISCUSSED WITH GREATER WELLINGTON THROUGH A PRE-CONSTRUCTION MEETING.
2. WHERE ROOM DOES NOT ALLOW A FULL STREAM DIVERSION TO BE INSTALLED A PUMPING METHODOLOGY WILL OCCUR WHERE WATER FROM UPSTREAM WILL BE DAMMED WITH A NON ERODIBLE COFFER DAM AND PUMPED AROUND THE WORKS TO BELOW A DOWNSTREAM COFFER DAM. A SECONDARY PUMP SYSTEM WILL REMAIN IN PLACE TO ENSURE ANY DIRTY WATER FROM WITHIN THE WORKS AREA IS PUMPED TO A DEB.
3. GEOTEXTILE WILL BE STORED ON SITE SUCH THAT IN TIMES OF FLOOD EVENTS (AS FORECAST) GEOTEXTILE CAN BE LAID OVER THE EXPOSED WORKS AREA AND A STABLE FLOW PATH PROVIDED.
4. DEB FOR TREATMENT CAN BE REPLACED WITH A TURKEYS NEST OR IF ROOM ALLOWS PUMPING TO A GRASS PADDOCK AWAY FROM THE WATERCOURSE. ENDORSEMENT FOR THIS METHODOLOGY WILL BE PROVIDED BY GREATER WELLINGTON THROUGH A PRE-CONSTRUCTION MEETING.

NOTES:

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Project: **MACKAYS TO PEKA PEKA EXPRESSWAY**

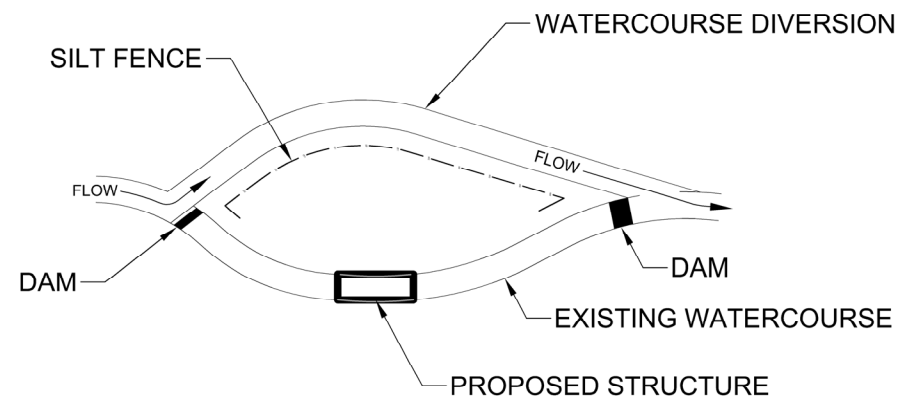
Title: **EROSION & SEDIMENT CONTROL STREAM DIVERSION METHODOLOGY STEPS 1 & 2**

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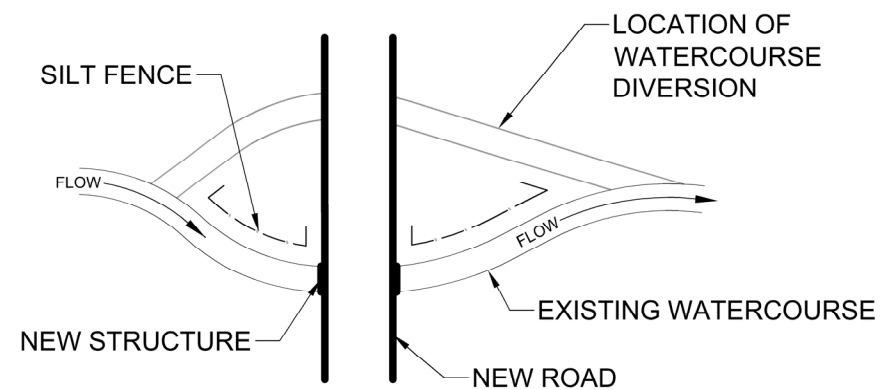
Rev: 1



STEP 3

STEP 3 METHODOLOGY

1. UTILISING AN EROSION PROOF COFFER DAM PLUG THE DOWNSTREAM LOCATION OF THE ORIGINAL CHANNEL SUCH THAT FLOWS ARE FULLY THROUGH NEW DIVERSION.
2. IN THE VICINITY OF THE LOCATION OF THE STRUCTURE INSTALL A DECANTING EARTH BUND (DEB) TO PUMP WATER FROM THE WORKS AREA TO FOR TREATMENT PRIOR TO DISCHARGE. PUMP ORIGINAL (ISOLATED) STREAM CHANNEL TO DEB.
3. INSTALL EITHER A SILT FENCE OR A SUPER SILT FENCE BETWEEN THE WORK AREA AND THE ACTIVE STREAM DIVERSION.
4. UNDERTAKE NECESSARY WORKS ASSOCIATED WITH THE STRUCTURE WHILE RETAINING DIVERSION IN A STABLE STATE.



STEP 4

STEP 4 METHODOLOGY

1. ONCE STRUCTURE COMPLETE ALLOW FLOWS TO FLOW BACK INTO ORIGINAL CHANNEL.
2. RELOCATE SILT FENCE AS DETAILED TO PROTECT STREAM CHANNEL.
3. UNDERTAKE ANY FISH RECOVERY FROM DIVERSION IF NECESSARY AND BACKFILL DIVERSION.
4. REINSTATE AREA INCLUDING REVEGETATION.

NOTES:

1. SPECIFIC STREAM DIVERSION METHODOLOGY AND SIZING WILL BE DEVELOPED PRIOR TO WORKS COMMENCEMENT AND APPROVED AND DISCUSSED WITH GREATER WELLINGTON THROUGH A PRE-CONSTRUCTION MEETING.
2. WHERE ROOM DOES NOT ALLOW A FULL STREAM DIVERSION TO BE INSTALLED A PUMPING METHODOLOGY WILL OCCUR WHERE WATER FROM UPSTREAM WILL BE DAMMED WITH A NON ERODIBLE COFFER DAM AND PUMPED AROUND THE WORKS TO BELOW A DOWNSTREAM COFFER DAM. A SECONDARY PUMP SYSTEM WILL REMAIN IN PLACE TO ENSURE ANY DIRTY WATER FROM WITHIN THE WORKS AREA IS PUMPED TO A DEB.
3. GEOTEXTILE WILL BE STORED ON SITE SUCH THAT IN TIMES OF FLOOD EVENTS (AS FORECAST) GEOTEXTILE CAN BE LAID OVER THE EXPOSED WORKS AREA AND A STABLE FLOW PATH PROVIDED.
4. DEB FOR TREATMENT CAN BE REPLACED WITH A TURKEYS NEST OR IF ROOM ALLOWS PUMPING TO A GRASS Paddock AWAY FROM THE WATERCOURSE. ENDORSEMENT FOR THIS METHODOLOGY WILL BE PROVIDED BY GREATER WELLINGTON THROUGH A PRE-CONSTRUCTION MEETING.

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Project: MACKAYS TO PEKA PEKA EXPRESSWAY	
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