



## **APPENDIX 4-3**

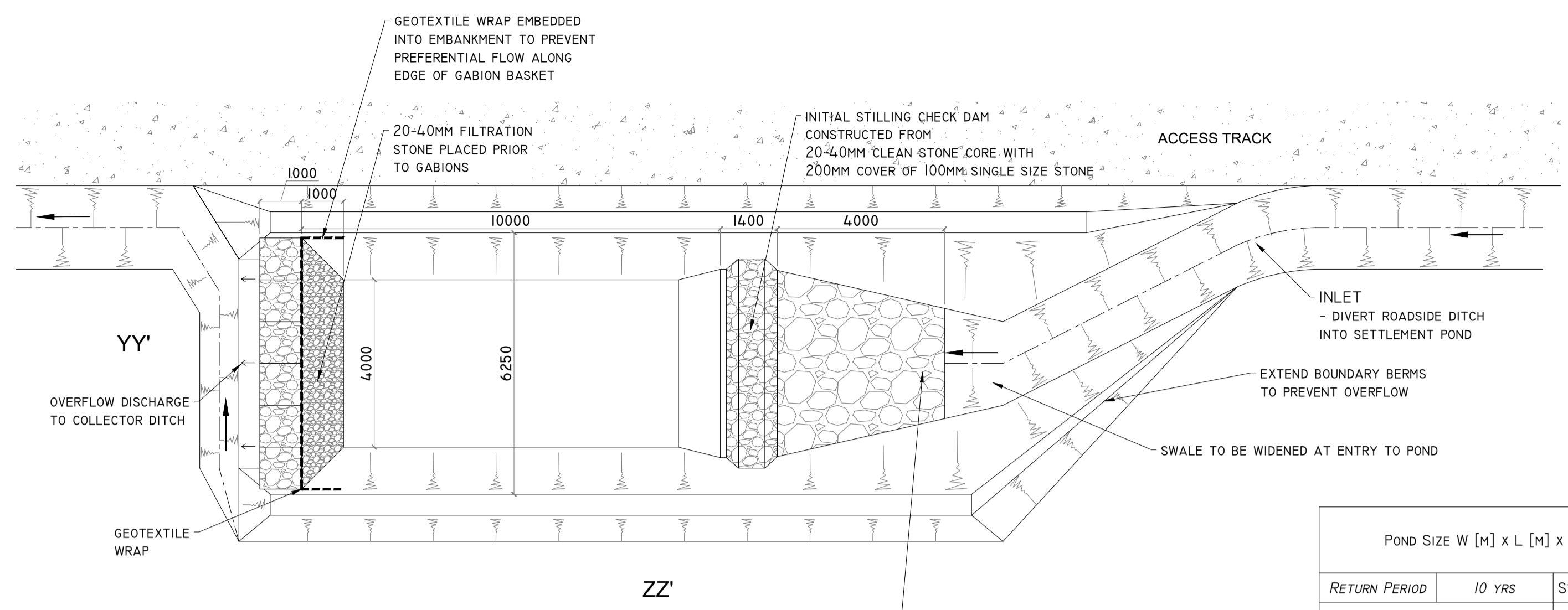
**DRAINAGE DESIGN  
DRAWINGS**

# DETAIL A1

# DETAIL B2

## CULVERT - OUTFALL PROTECTION DETAIL

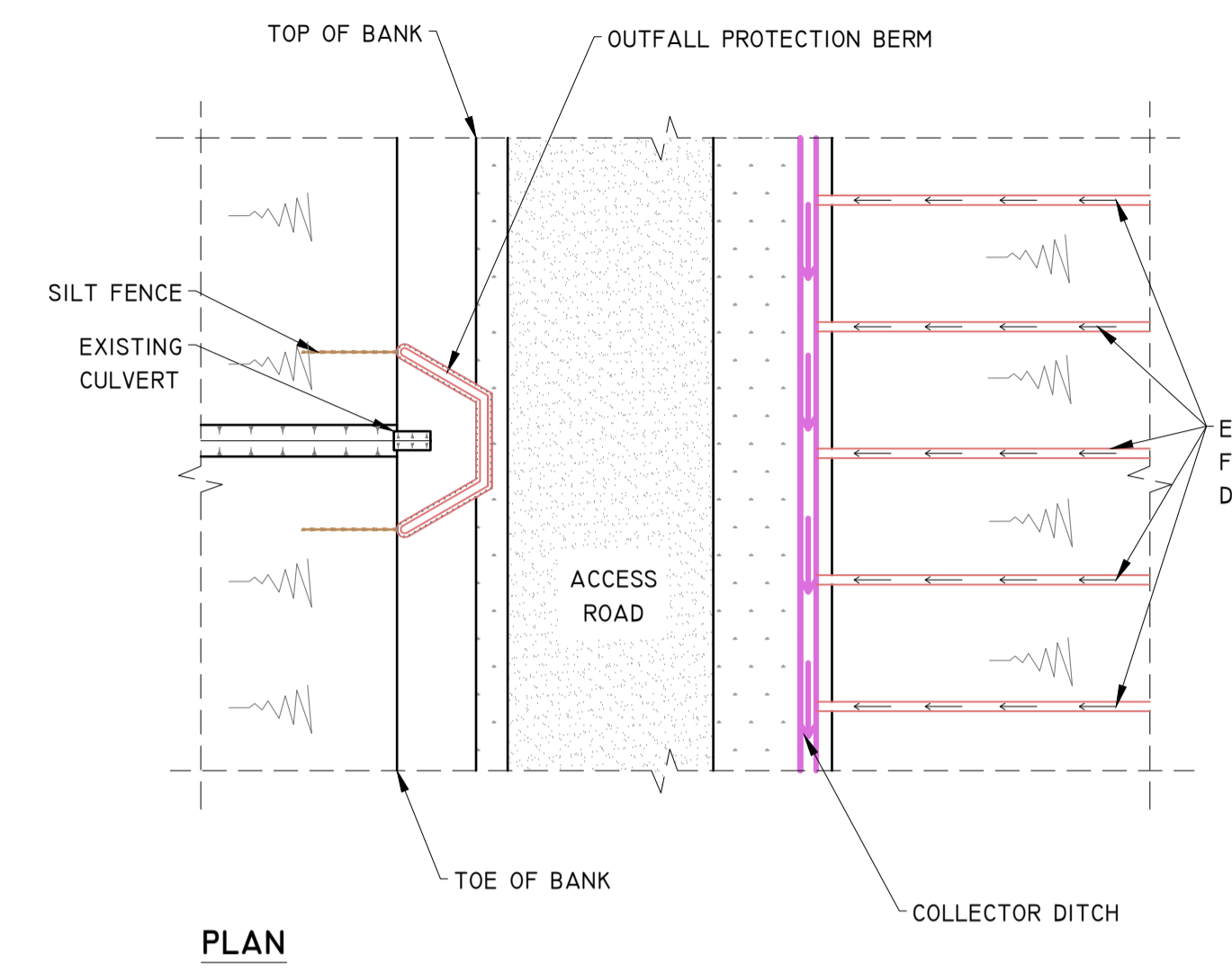
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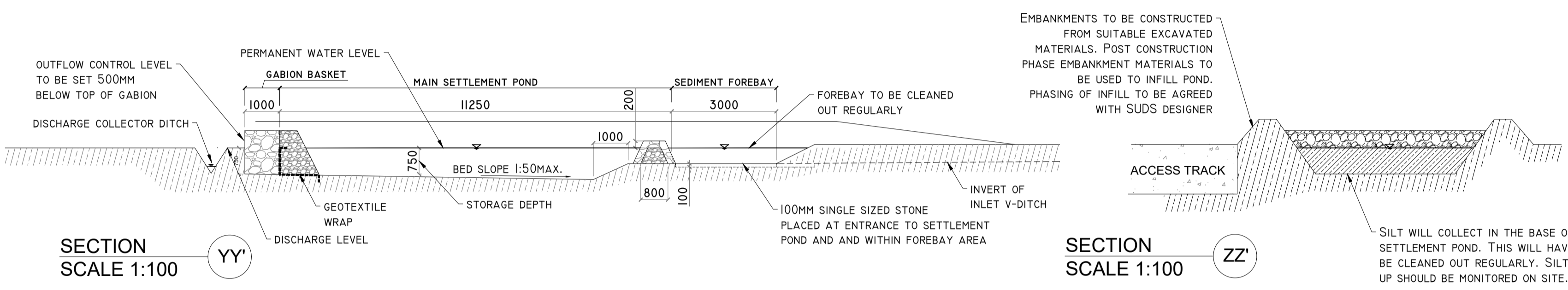
**TYPE A - ROAD SIDE SETTLEMENT POND DETAIL**  
SCALE 1:100 (NOTE DIMENSIONS VARY DEPENDING ON CATCHMENT SIZE - SEE ATTACHED TABLE)

RETURN PERIOD	POND SIZE W [M] x L [M] x D [M]			TRACK/HARDSTAND CATCHMENT SIZE (M <sup>2</sup> )		
	10 YRS	STORM DURATION		500	1000	2000
6HR RETENTION FOR COARSE SILT	6 HRS			2.6 x 7.8 x 1 M	3.6 x 11.3 x 1 M	5.1 x 16.0 x 1 M
11HR RETENTION FOR MEDIUM SILT	12 HRS			3.8 x 12.1 x 1 M	5.5 x 16.7 x 1 M	7.8 x 23.6 x 1 M
24HR RETENTION FOR FINE SILT	24 HRS			6.5 x 20.1 x 1 M	9.2 x 28.5 x 1 M	13.0 x 40.3 x 1 M

100MM SINGLE SIZED STONE PLACED AT ENTRANCE TO SETTLEMENT POND AND AND WITHIN FOREBAY AREA



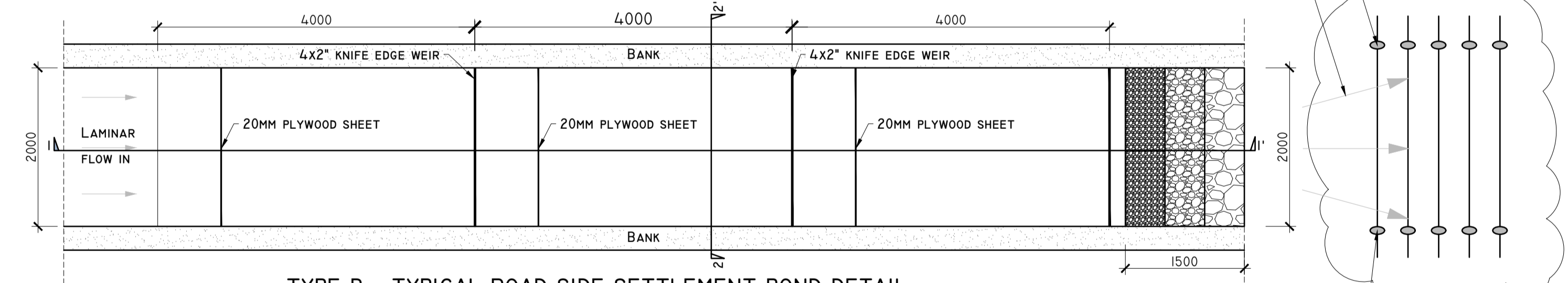
**PLAN**



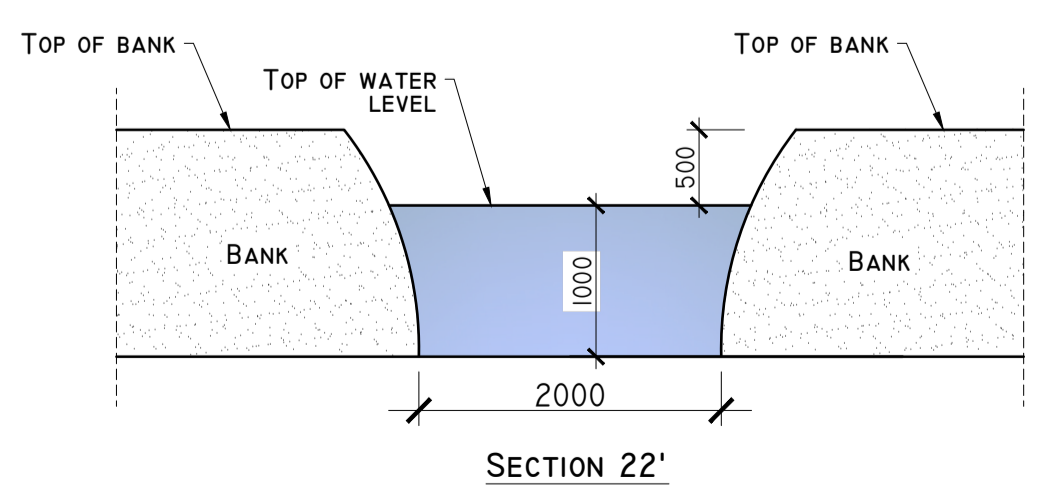
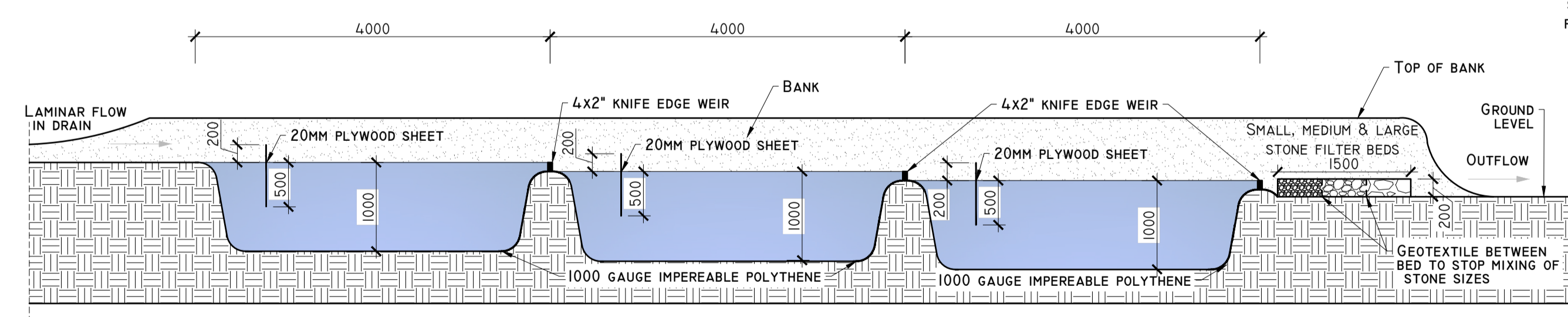
**SECTION YY'**  
SCALE 1:100

**SECTION ZZ'**  
SCALE 1:100

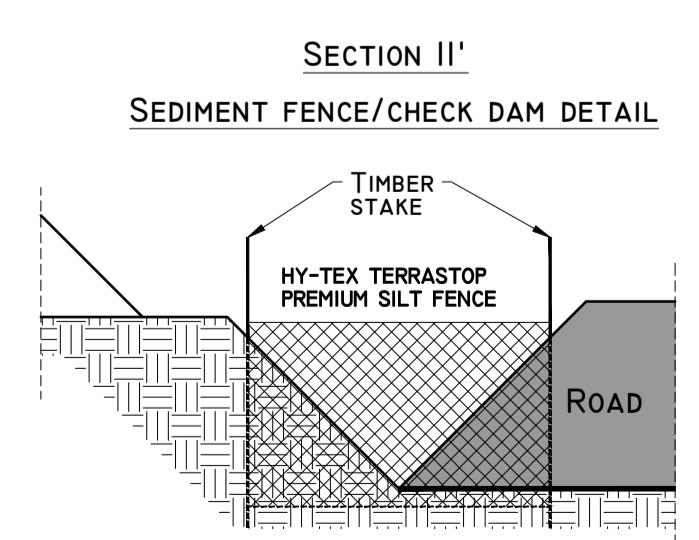
# DETAIL A2



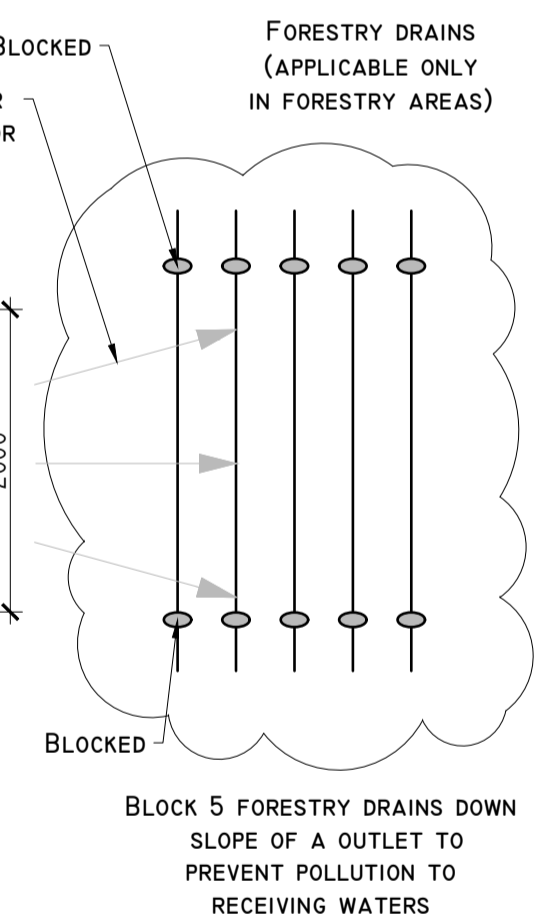
**TYPE B - TYPICAL ROAD SIDE SETTLEMENT POND DETAIL**  
SCALE 1:200 (NOTE DIMENSIONS VARY DEPENDING ON CATCHMENT SIZE - SEE ATTACHED TABLE)



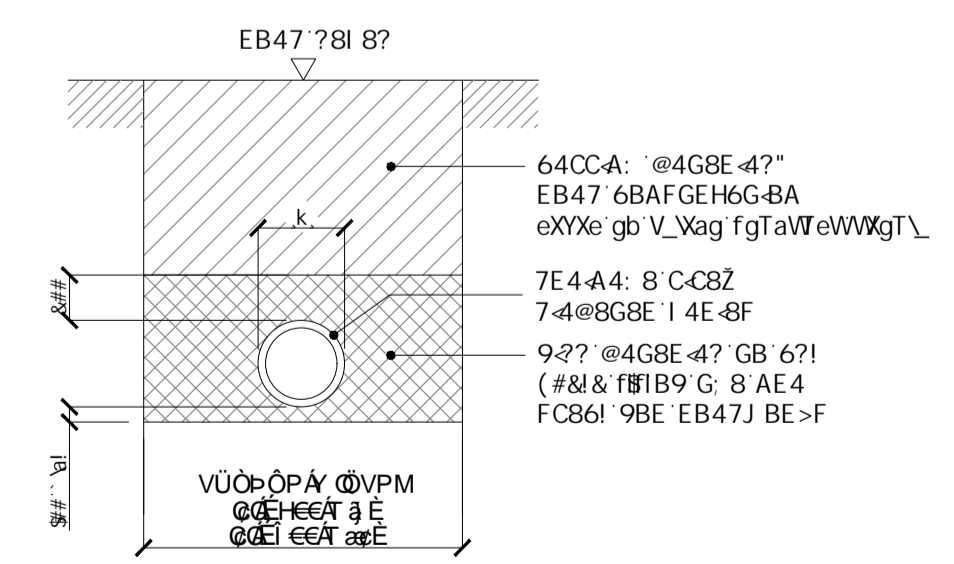
**SECTION 22'**



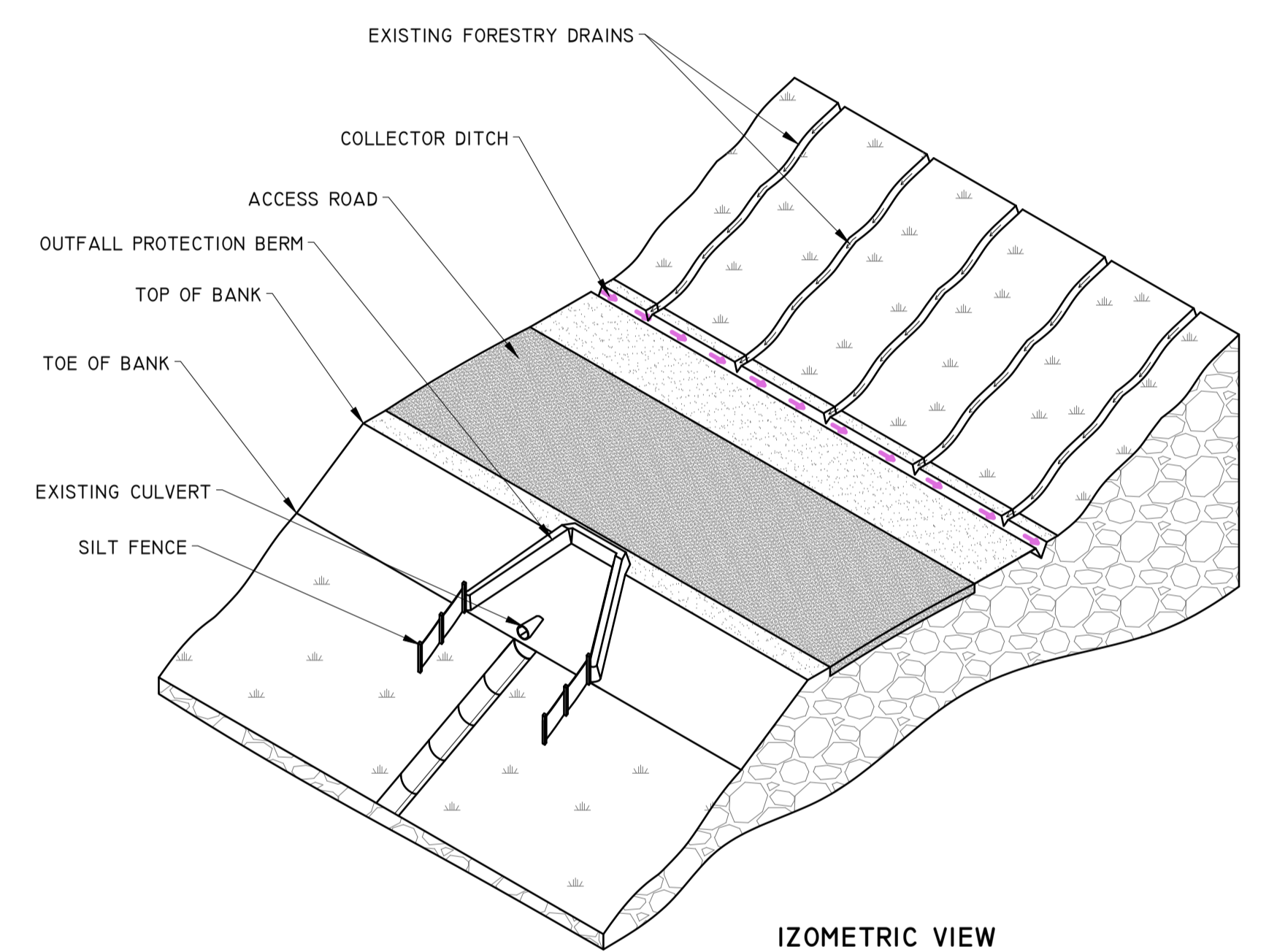
**SECTION II' SEDIMENT FENCE/CHECK DAM DETAIL**



# 78G4 2' 51



**6H?1 8EG 7 7E4-A4: 8 6EBFF-A: BENEATH EXCAVATED ROAD**  
SCALE 1:50



**IZOMETRIC VIEW**

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Date	Description	Chkd	Signed
Revisions			

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Client: **ENERCO ENERGY LTD**

Job: **SLIEVEACURRY RENEWABLE ENERGY DEVELOPMENT**

Title: **DRAINAGE DETAILS I**

Figure No: **D501**

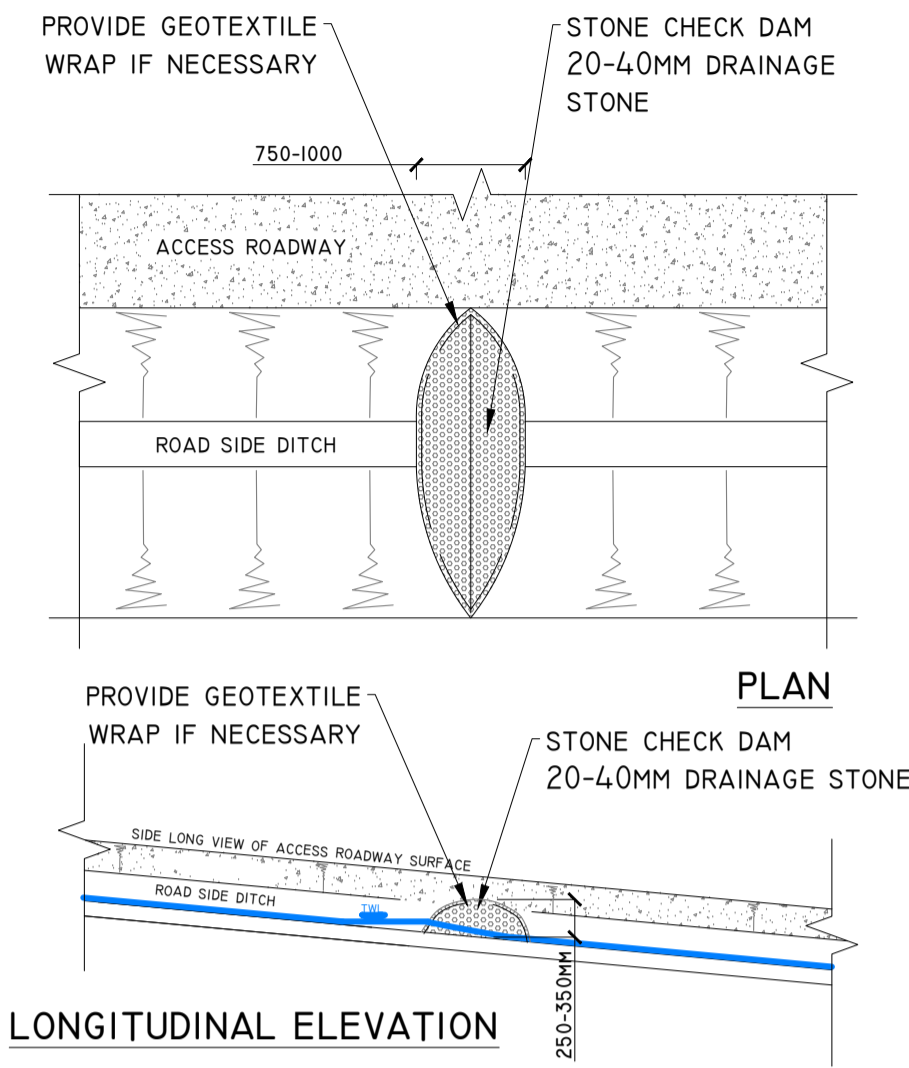
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Sheet Size: A1 Project No.: P1159-5

Scale: as shown (A1) Drawn By: GA

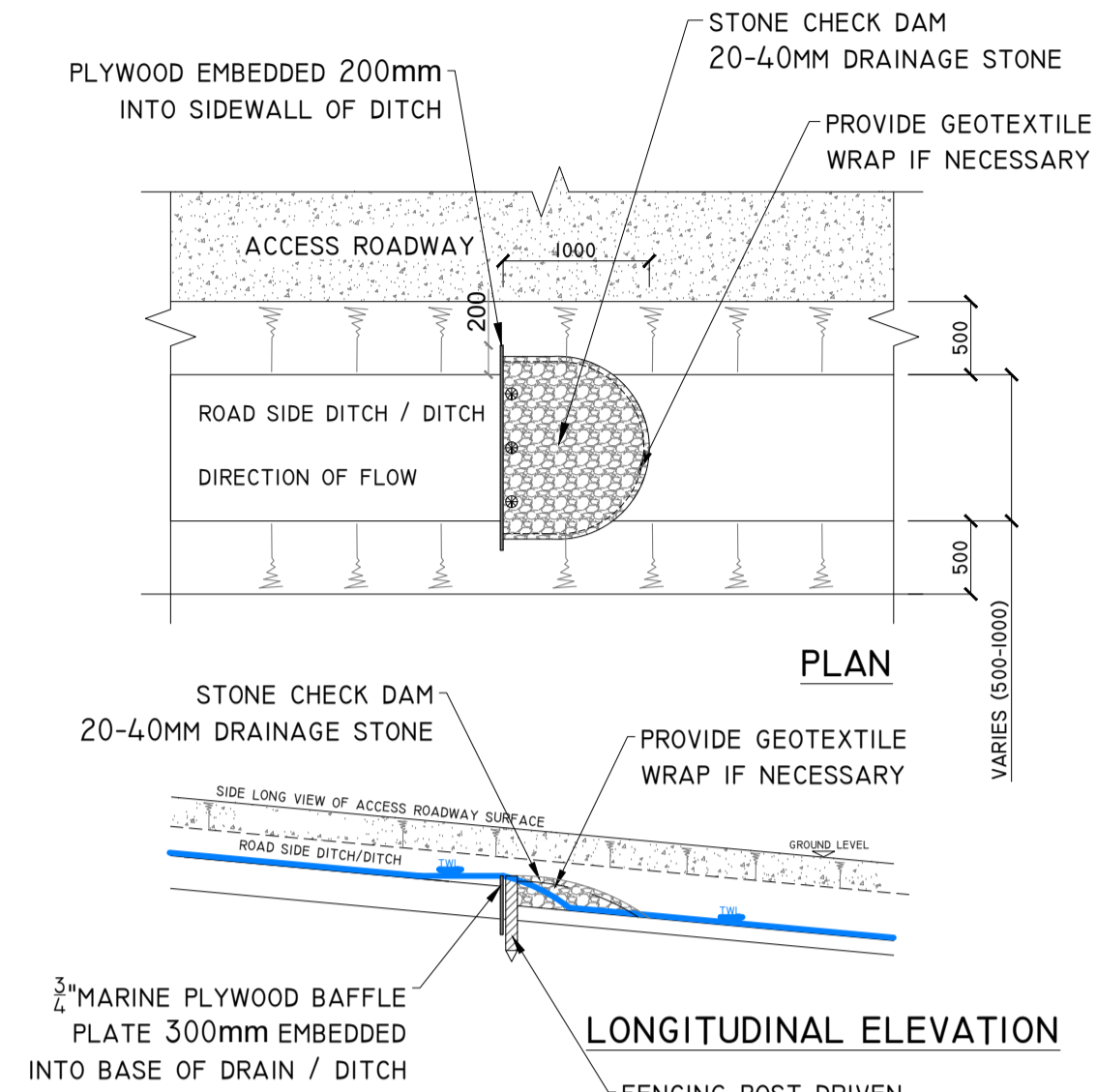
Date: 07/04/2026 Checked By: MG

# DETAIL C

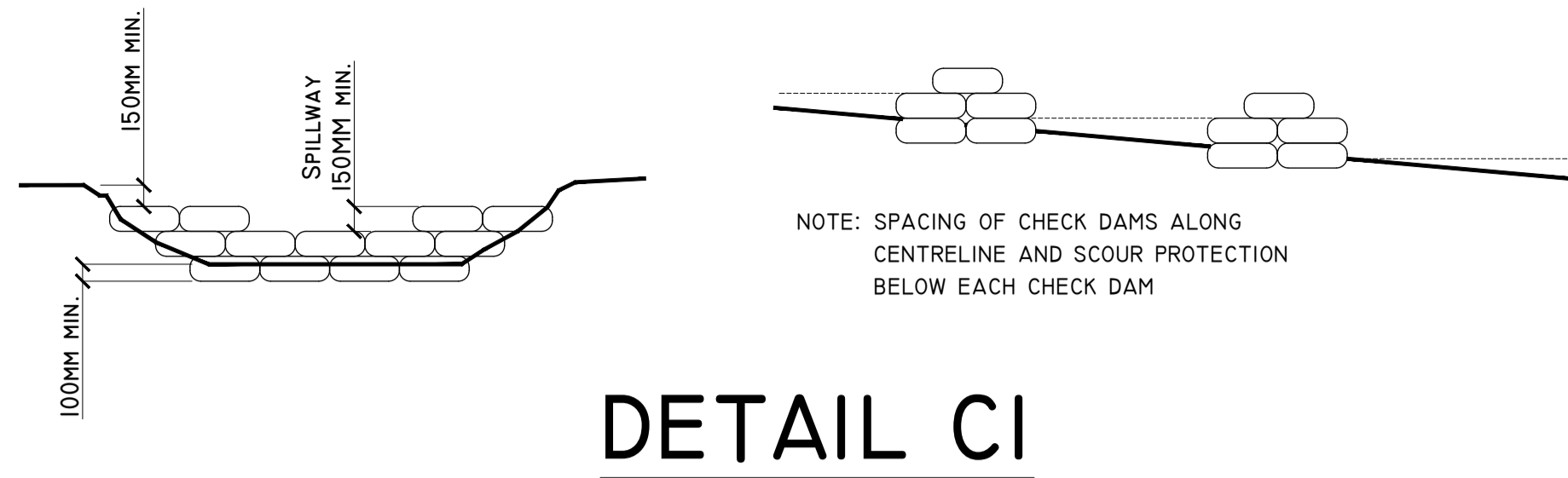


**TYPE X - CHECK DAM DETAIL**  
SCALE 1:50

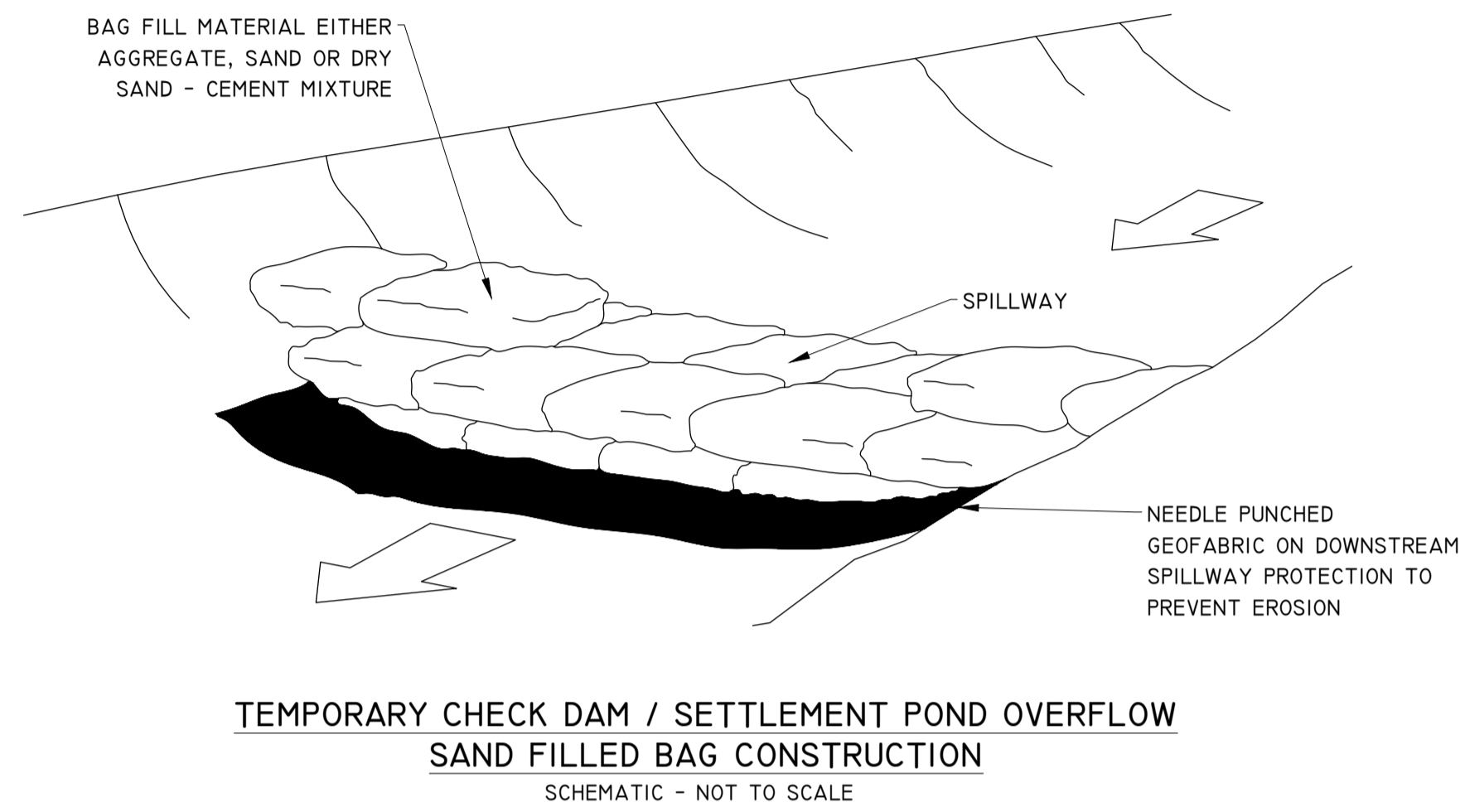
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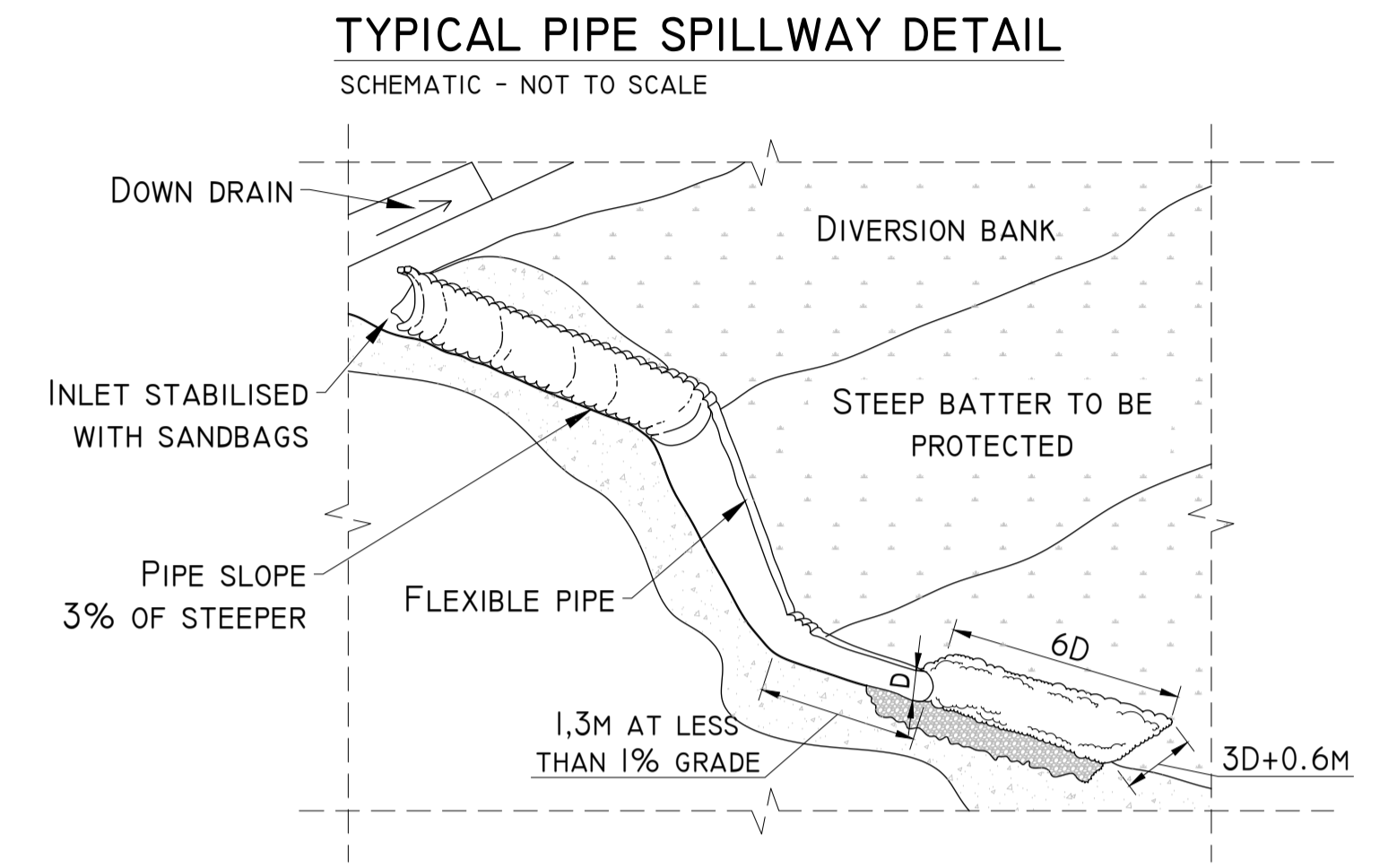
**TYPE Y - CHECK DAM DETAIL**  
SCALE 1:100



# DETAIL CI

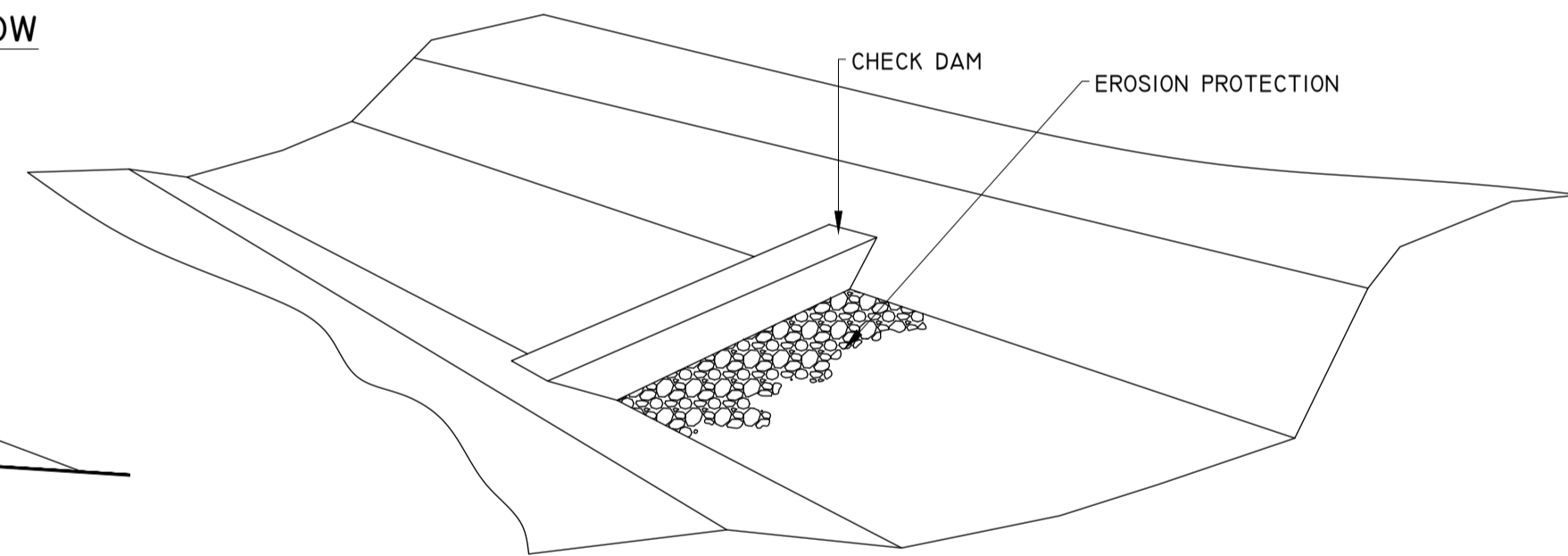
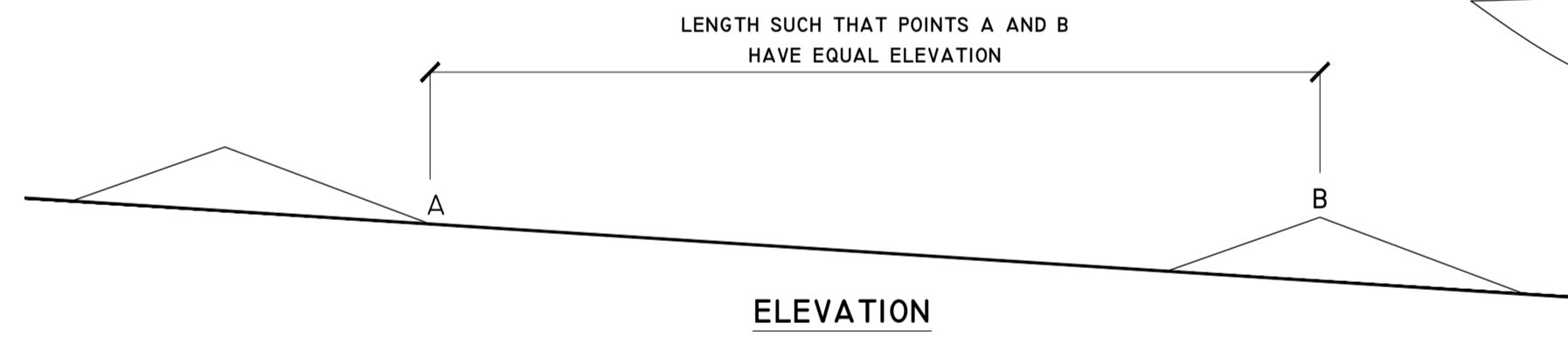


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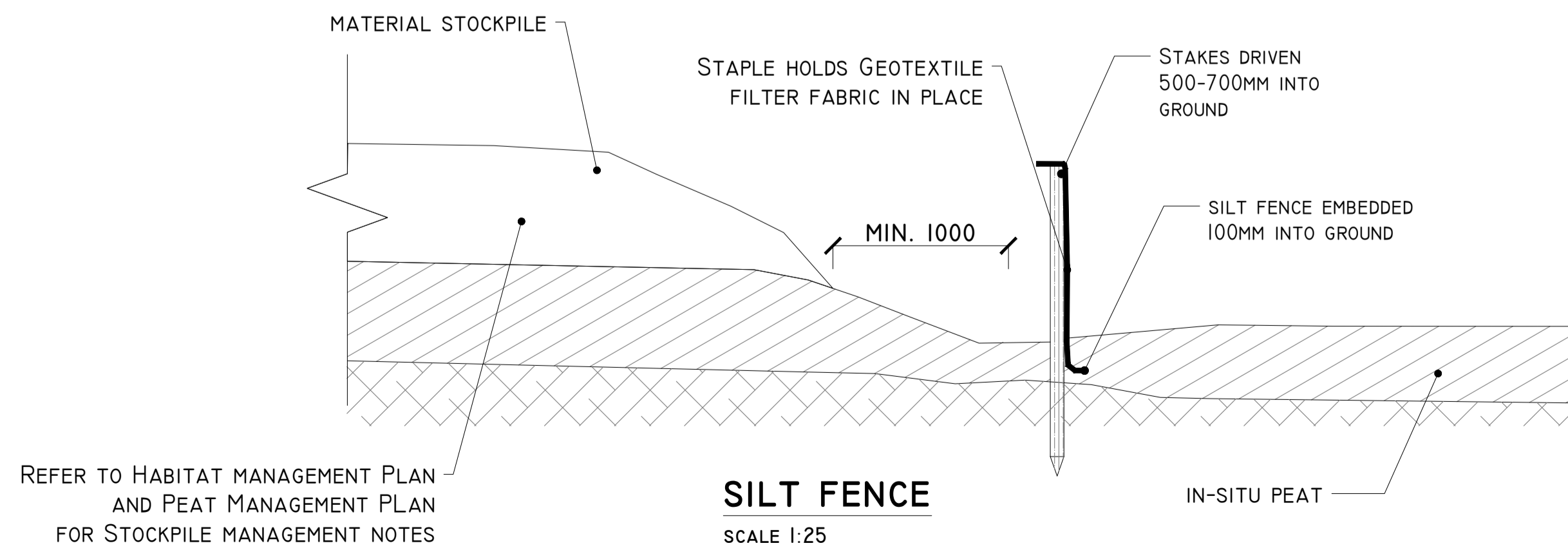


# DETAIL C2

**TEMPORARY CHECK DAM / SETTLEMENT POND OVERFLOW**  
SCHEMATIC - NOT TO SCALE



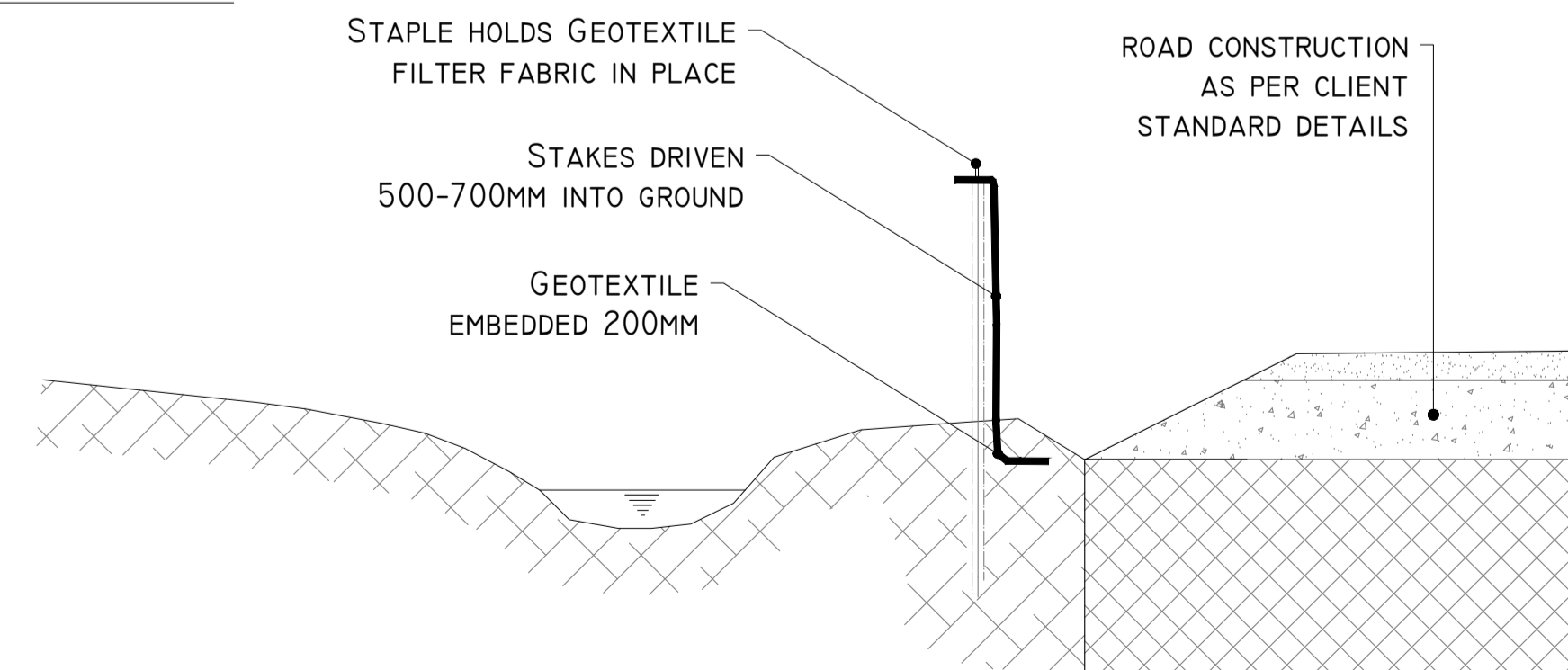
# DETAIL F-I



REFER TO HABITAT MANAGEMENT PLAN AND PEAT MANAGEMENT PLAN FOR STOCKPILE MANAGEMENT NOTES

**SILT FENCE**  
SCALE 1:25

# DETAIL F-II



**SILT FENCE FOR WATERCOURSE PROTECTION**  
SCALE 1:25

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Job: **SLIEVEACURRY RENEWABLE ENERGY DEVELOPMENT**

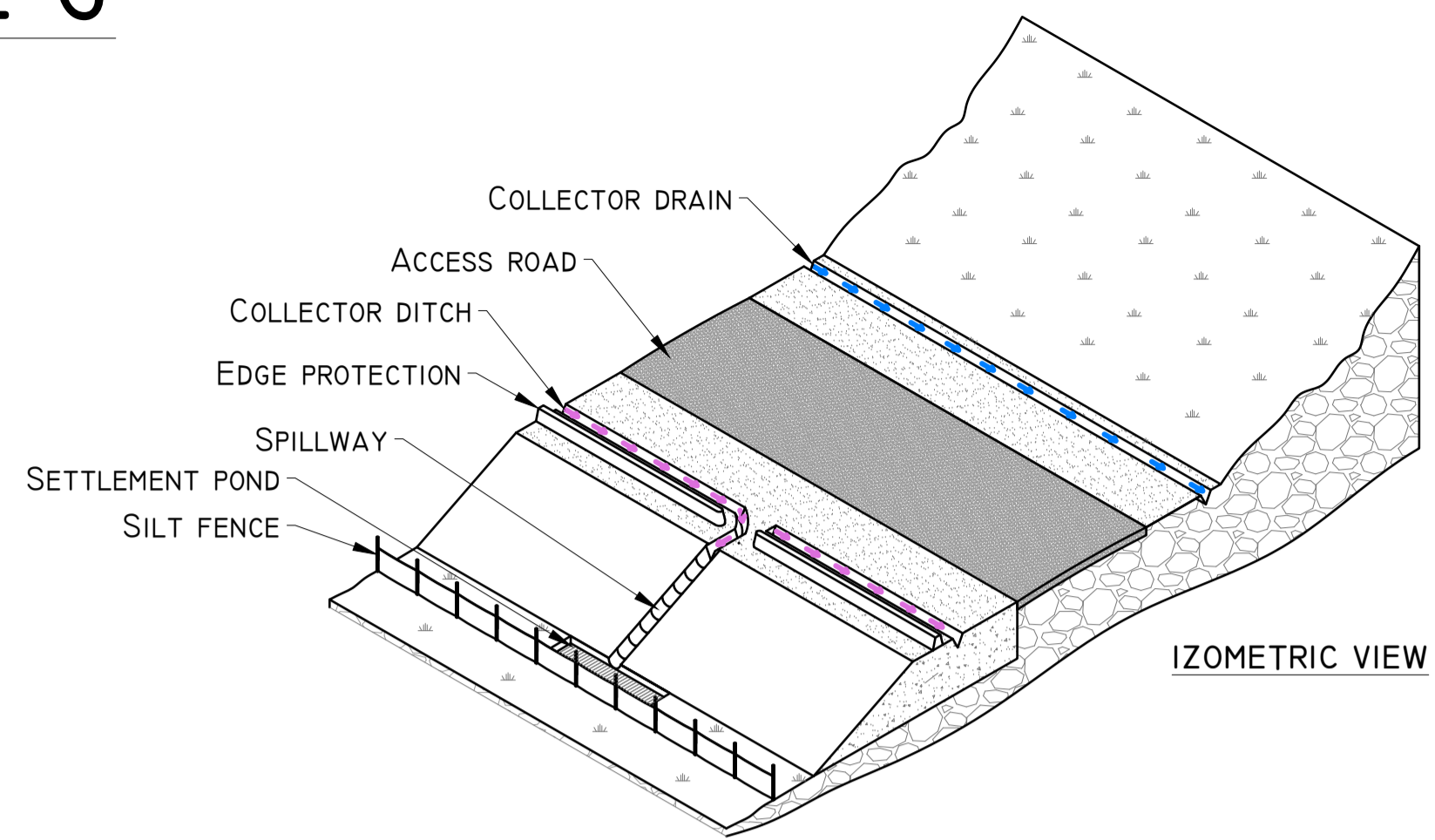
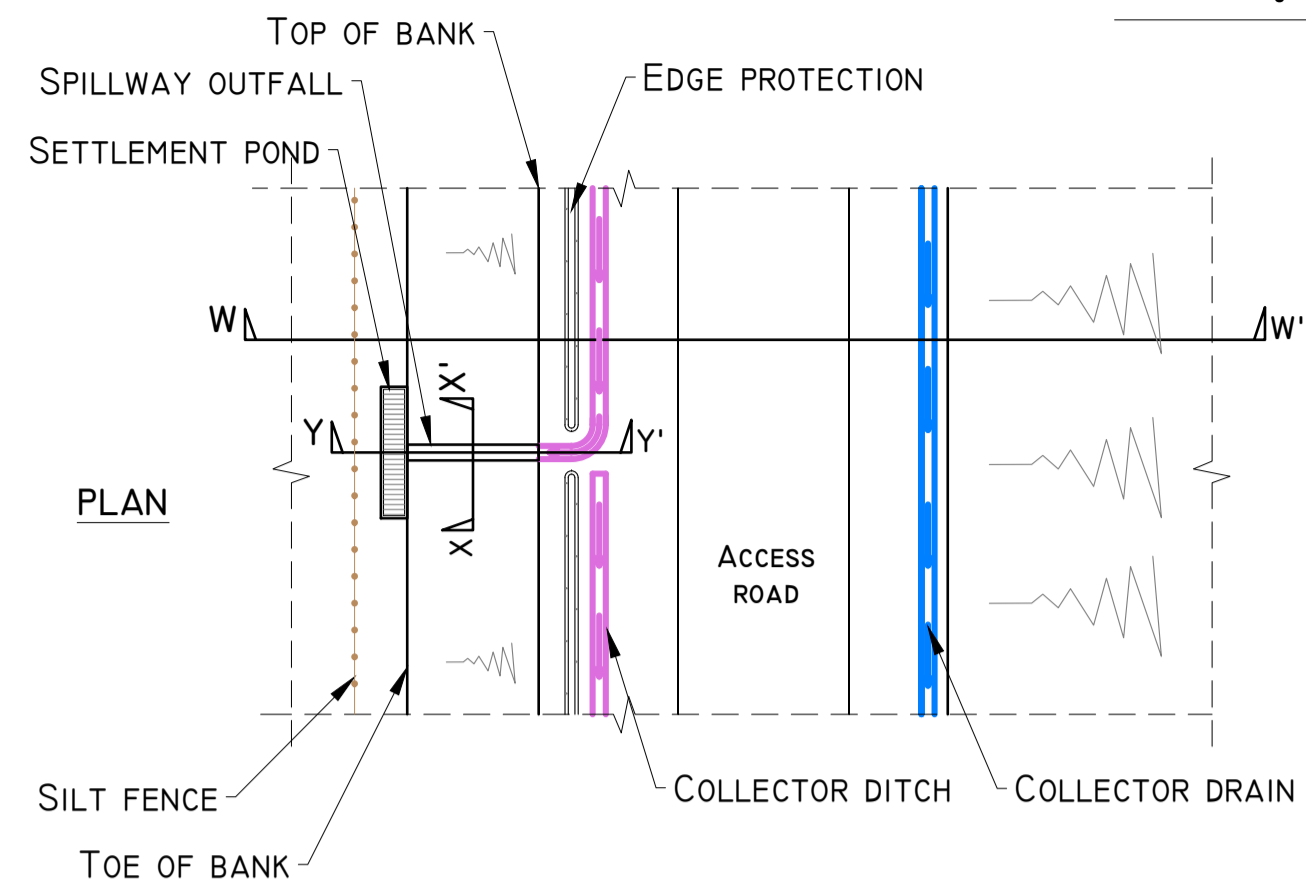
Title: **DRAINAGE DETAILS 2**

Figure No: **D502**

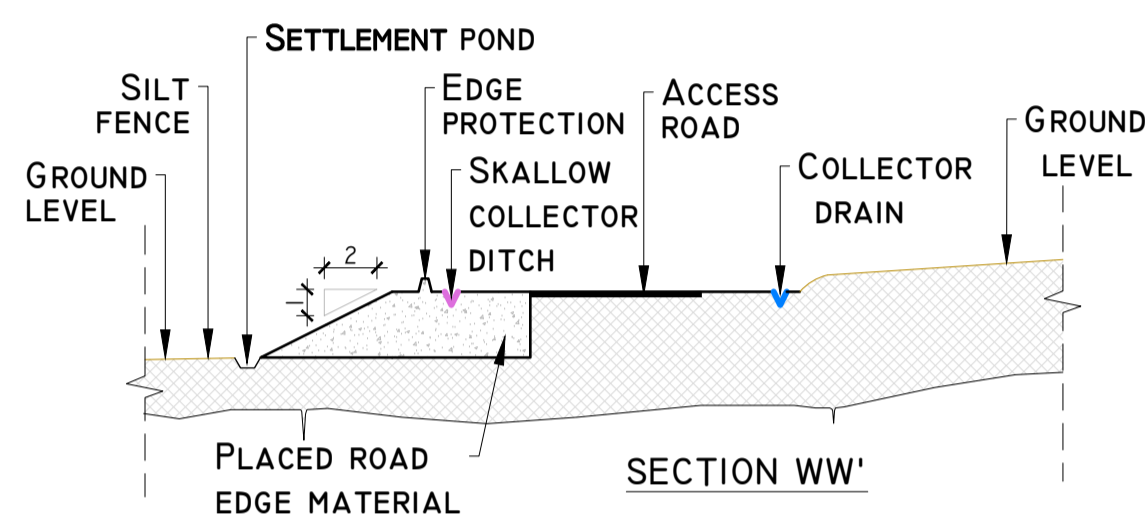
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Sheet Size: A1  
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Date: 07/04/2026

Project No.: P1159-5  
Drawn By: GA  
Checked By: MG

# DETAIL G

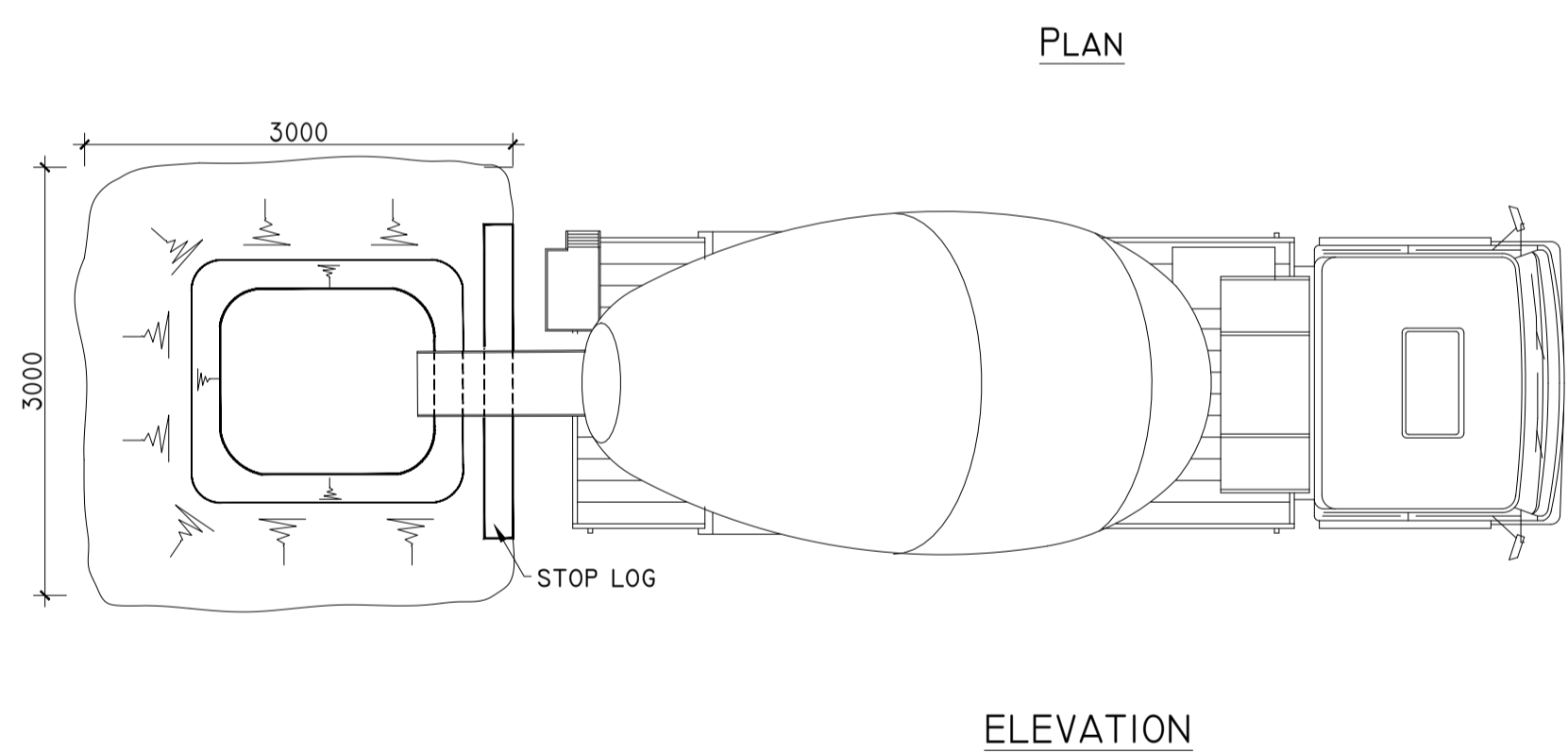


**SPILLWAY OUTFALL PLAN**  
SCHEMATIC - NOT TO SCALE

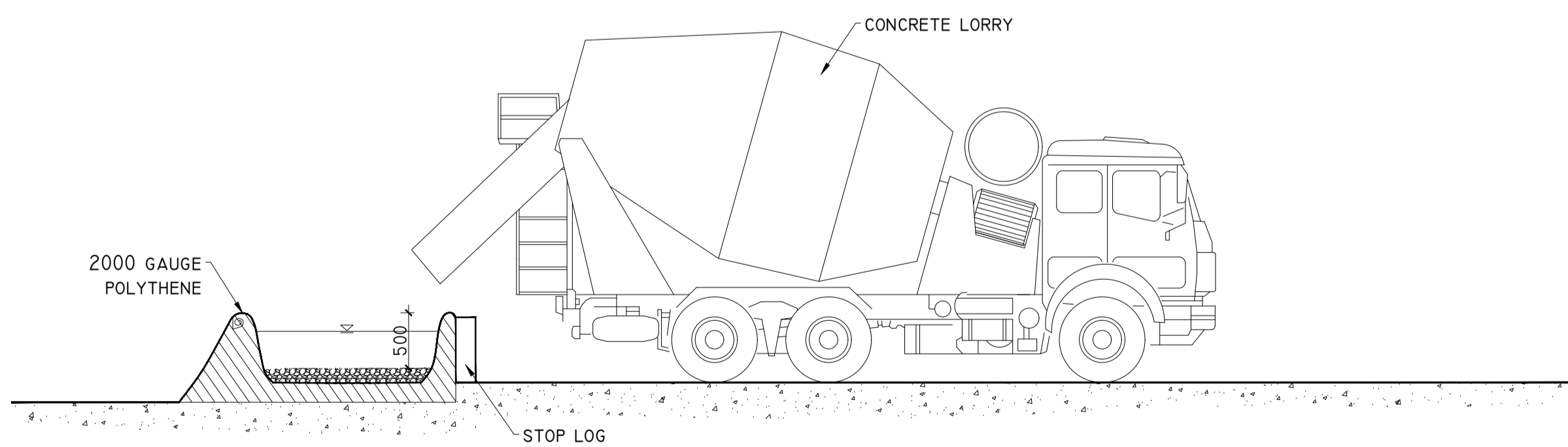


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**TEMPORARY CONCRETE WASH OUT PIT**  
SCALE 1:50

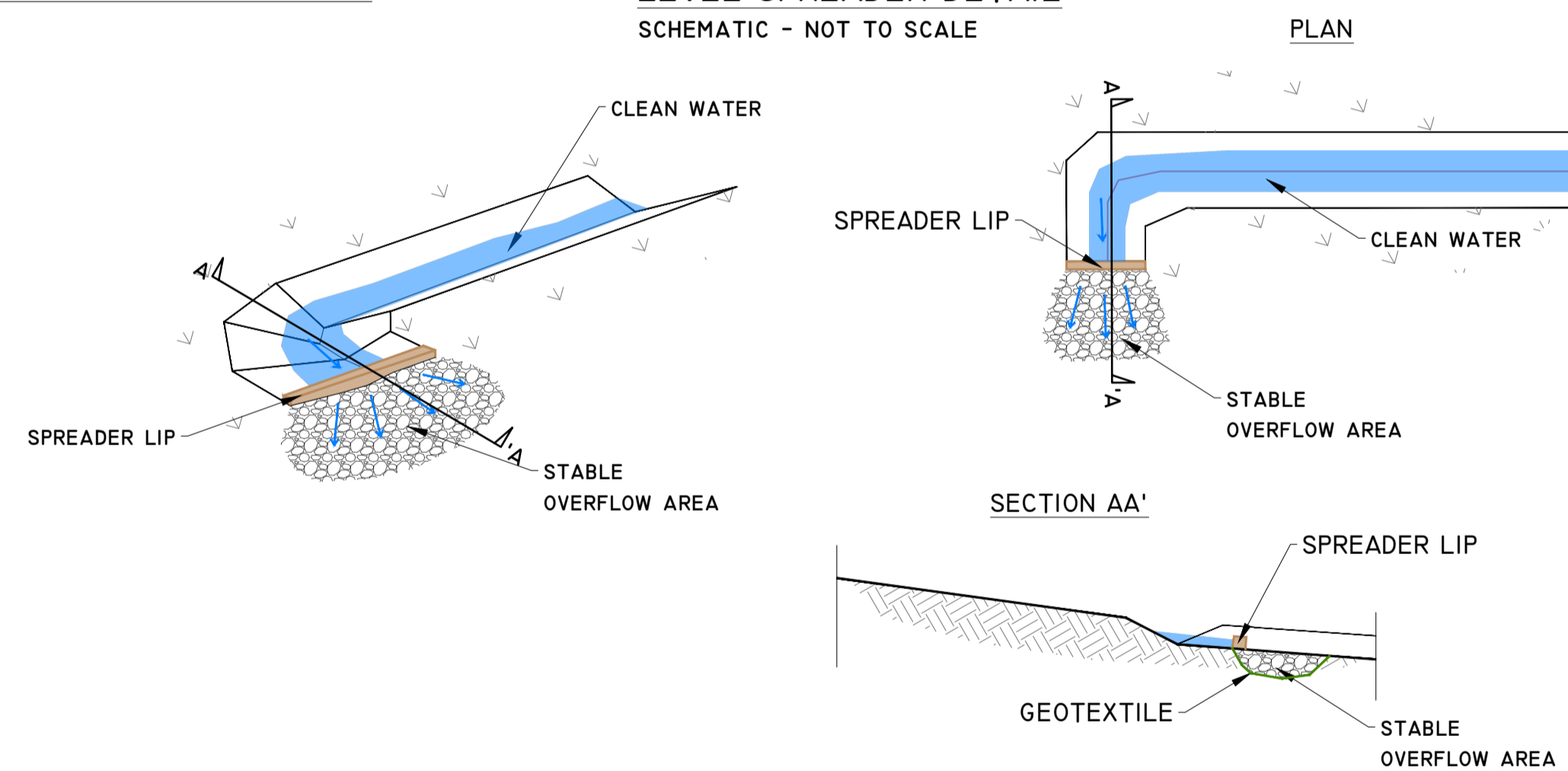


# DETAIL H



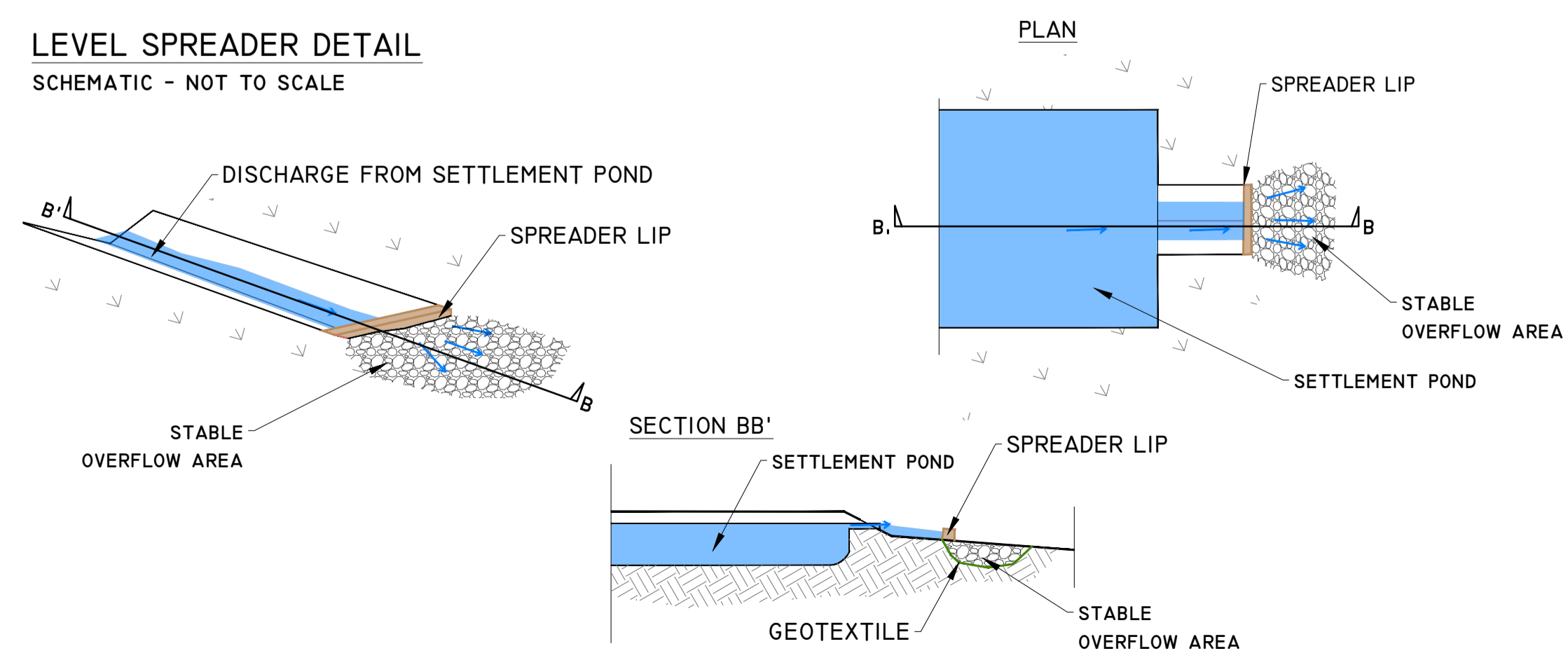
# DETAIL J-1

**LEVEL SPREADER DETAIL**  
SCHEMATIC - NOT TO SCALE



# DETAIL J-2

**LEVEL SPREADER DETAIL**  
SCHEMATIC - NOT TO SCALE



Date	Description	Chkd	Signed
Revisions			

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Client: **ENERCO ENERGY LTD**

Job: **SLIEVEACURRY RENEWABLE ENERGY DEVELOPMENT**

Title: **DRAINAGE DETAILS 3**

Figure No: **D503**

Drawing No: P1159-5-0426-A1-D503-00B

Sheet Size: A1 Project No.: P1159-5

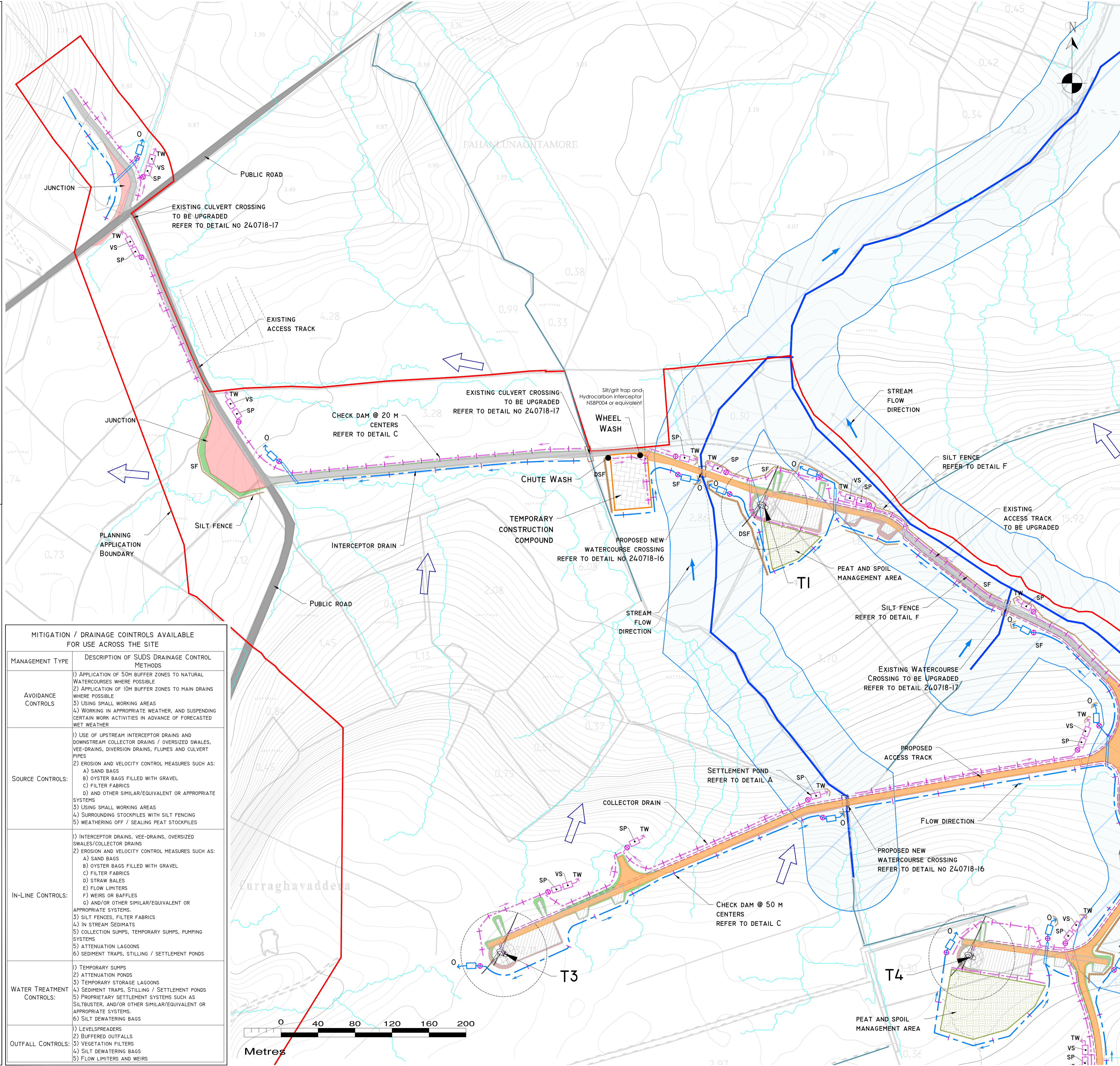
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Date: 07/04/2026 Checked By: MG

**POLLUTION PREVENTION NOTES:**

- SITE MANAGEMENT PROPOSALS ARE INTENDED TO ENSURE PROTECTION AGAINST SURFACE WATER AND GROUNDWATER POLLUTION, SURFACE WATER SILTATION, AND STREAM BANK AND LAND EROSION.
  - SUITABLE DRAINAGE CONTROL MEASURES SHOULD BE IN PLACE AT ALL TIMES TO PREVENT CONVEYANCE OF SIGNIFICANT VOLUMES OF SILT TO OFF SITE RECEIVING WATERCOURSES.
  - SILTY WATER CAN ARISE FROM DEWATERING EXCAVATIONS, EROSION OF EXPOSED/DISTURBED GROUND, EROSION OF TEMPORARY STOCKPILES, PLANT AND WHEEL WASH WATER, RUNOFF FROM SITE ROADS/TRACKS, AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.
- DISCHARGES**
- WATER CONTAINING SILT WILL NOT BE PUMPED DIRECTLY TO ANY NATURAL WATERCOURSE. ALL DISCHARGES TO BE MADE OVER OPEN GROUND OR INTO EXISTING FIELD DRAIN WITH SILT TRAP A MINIMUM 20M FROM NEAREST WATERCOURSE UNLESS OTHERWISE STATED.
  - NO EXCAVATED MATERIAL IS TO BE STORED WITHIN ANY SURFACE WATER BUFFER ZONE.
  - PUMPED WATER WILL BE DIRECTED INTO TRACK SIDE DITCHES AND TREATED IN SETTLEMENT PONS AND VEGETATION SWALES PRIOR TO OVERLAND DISCHARGE.
  - PUMPING OF CLEAN WATER FROM EXCAVATIONS / OR OVER-PUMPING INTO FIELD DRAINS/DITCHES/STREAMS WILL BE COMPLETED IN A MANNER THAT DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF RELEASE/DISCHARGE. THIS WILL BE DONE BY REDUCING THE FLOW VELOCITIES OR BY USE OF SPLASH PLATES, AND OTHER SIMILAR DISCHARGE CONTROLS.
  - VEGETATION WILL NOT BE STRIPPED FROM EXISTING FIELD DRAINS/DITCHES UNLESS ABSOLUTELY NECESSARY.
- EXCAVATIONS**
- WHERE DEEP EXCAVATIONS ARE PROPOSED CUT-OFF DRAINS WILL BE USE TO REDUCE THE AMOUNT OF SURFACE WATER ENTERING THE EXCAVATION. THIS WILL BE THE CASE AROUND TURBINE BASE EXCAVATIONS.
- EXPOSED GROUND & STOCKPILES**
- THE AMOUNT OF EXPOSED GROUND AND TEMPORARY STOCKPILES OPEN AT ANY ONE TIME WILL BE MINIMISED, AS FAR AS PRACTICABLE.
- SITE TRACKS**
- USE OF TRACK SIDE SWALES WITH CHECK DAMS, AND/OR FILTRATION CHECK DAMS WILL REDUCE SILT IN RUNOFF WATER AS REQUIRED.
  - CHECK DAMS TO BE INSPECTED AND CLEANED REGULARLY.
- REFUELLING**
- REFUELLING WILL BE COMPLETED IN LINE WITH CEMP REQUIREMENTS AND AWAY FROM FIELD DRAINS / DITCHES AND WATERCOURSES / WATERBODIES.
  - SPILL KITS AND DRIP TRAYS WILL BE AVAILABLE ON SITE FOR USE AS REQUIRED.
- CONCRETE**
- CARE WILL BE TAKEN WHEN COMPLETING CONCRETE WORKS ON SITE TO ENSURE NO DISCHARGES OF CONCRETE OR WASH WATER OCCURS.
  - CONCRETE WASH WATER, AND WASTE CONCRETE WILL BE MANAGED APPROPRIATELY ON SITE.
- IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING STEPS WOULD BE ADHERED TO:**
- STOP** - WORK IN THE IMMEDIATE AREA SHOULD BE STOPPED AND THE SOURCE OF THE POLLUTION IDENTIFIED.
- CONTAIN** - THE SOURCE OF THE POLLUTION SHOULD BE BUNDED USING A SUITABLE METHOD. NATURAL WATERCOURSES SHOULD BE TEMPORARILY DIVERTED AROUND THE SOURCE OF POLLUTION.
- NOTIFY** - THE RELEVANT AUTHORITIES (SITE MANAGER / INLAND FISHERIES IRELAND / NPWS / LOCAL AUTHORITY ETC.) SHOULD BE NOTIFIED IMMEDIATELY TO ENSURE THAT MEASURES CAN BE IMPLEMENTED DOWNSTREAM TO PROTECT FISHERIES AND OTHER SENSITIVE AREAS, IF REQUIRED.

- DRAINAGE NOTES:**
- ROADWAY SURFACING DESIGN AND CONSTRUCTION TO ENGINEER'S SPECIFICATION.
  - SPARE STRAW BALES/SILT FENCING/ OR SIMILAR, TO BE STORED ON SITE. THE LEVEL OF SILT IN RUNOFF DURING CONSTRUCTION IS TO BE MONITORED VISUALLY AND EXCESSIVE SILT LEVELS IN ANY AREA TO BE TEMPORARILY MANAGED BY PLACING SILT FENCES, STRAW BALES / OR SIMILAR OR ADDITIONAL CHECK DAMS AT THE PROBLEM AREAS.
  - SUDS SYSTEM TO BE CONSTRUCTED PRIOR TO, OR AT THE SAME TIME AS THE ACCESS TRACKS. INTERIM MEASURES SUCH AS THE PLACEMENT OF STRAW BALES/SILT FENCING/OR SIMILAR APPROVED METHOD OR ADDITIONAL CHECK DAMS AND SILT FENCES TO BE EMPLOYED IN ALL INSTANCES WHERE WORK CARRIED OUT TO CONSTRUCT THE ACCESS TRACKS IS LIKELY TO CAUSE ADVERSE ENVIRONMENTAL EFFECTS THROUGH INCREASED SILT LOADINGS BEING GENERATED DURING THE CONSTRUCTION PHASE.
  - SUITABLE PREVENTION MEASURES SHOULD BE IN PLACE AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SILT TO RECEIVING WATERCOURSES. SEE NOTES ON POLLUTION PREVENTION.
  - INTERCEPTOR SWALES / DITCHES TO BE USED TO COLLECT UPSTREAM SURFACE WATER FLOWS. REGULAR CROSS DRAINS / DISCHARGE TO FIELD DITCHES WILL BE REQUIRED TO TRANSFER / DISCHARGE SURFACE WATER IN INTERCEPTOR DRAINS TO SUITABLE FIELD DRAIN OUTFALL POINTS.
  - DRAINAGE SWALES / DITCHES TO BE EXCAVATED ADJACENT TO THE ACCESS TRACKS. REGULAR CROSS DRAINS TO BE LOCATED ALONG ACCESS TRACKS TO PREVENT EXCESSIVE VOLUMES OF WATER COLLECTING IN THE SWALES / DITCHES. LOCATIONS OF CROSS DRAINS TO BE AGREED WITH THE ENGINEER ON SITE. SURFACE WATER WILL NOT BE ALLOWED TO DISCHARGE DIRECTLY INTO EXISTING WATERCOURSES.
  - WHERE POSSIBLE, A BUFFER ZONE OF >20M TO ANY EXISTING WATERCOURSE WILL BE REQUIRED WHERE OVER LAND DISCHARGES ARE PROPOSED FROM ACCESS TRACK SWALES / DITCHES.
  - DITCHES OF ALL PROPOSED SWALES / DITCHES TO HAVE A SLOPE OF BETWEEN 1 : 1.5 TO 1 : 2 DEPENDING UPON DEPTH OF SWALE/DITCH AND WILL BE LEFT AS CUT TO RE-VEGETATE WITH LOCAL SPECIES.
  - TRACK SIDE SWALES / DITCHES TO BE SHALLOW WITH MODERATE GRADIENTS TO PREVENT SCOURING. IN STEEP AREAS CHECK DAMS SHOULD BE INSTALLED TO REDUCE FLOW VELOCITIES AND PROVIDE SOURCE CONTROL OF SILT CONTAINMENT. WHERE NECESSARY, THESE HAVE BEEN DESIGNATED IN CONJUNCTION WITH SETTLEMENT PONDS AND SILT TRAPS, PRIOR TO DISCHARGE.
  - SETTLEMENT PONDS TO BE CONSTRUCTED FOR SILT REMOVAL AT TURBINE BASES AND HARD STAND AREAS. POND SIZES DEPENDS ON CATCHMENT AREA SERVED. SAMPLE POND SIZES SHOWN ON DRAWING D501.
  - STRAW BALES / OR SIMILAR AND SILT FENCES TO BE USED ALSO AROUND SPOIL HEAPS TO MITIGATE SILT RUNOFF. SILT FENCES MAY BE REMOVED WHEN SUITABLE VEGETATION COVER IS ESTABLISHED.
  - SILT FENCES TO BE PROVIDED ALONG EDGE OF EXISTING WATERCOURSE WHERE WORKS COMES WITHIN <20M OF EDGE OF ANY DITCH / EPHEMERAL CHANNELS.
  - SLOPES OF THE SWALES / DITCHES TO BE VEGETATED OR PROTECTED FROM EROSION UNTIL VEGETATION HAS BEEN ESTABLISHED. STRIPPED VEGETATIVE LAYER (PEAT 'SOD' OR 'SCRAW') FROM EXCAVATIONS TO BE STORED LOCALLY AND USED TO LINE SLOPES AND BASE OF SWALES / DITCHES OR LONGITUDINAL MOUNDS OF VEGETATION SWALES AT FIELD DRAIN DISCHARGE POINTS.
  - AREAS STRIPPED OF VEGETATION SHOULD BE KEPT TO A MINIMUM.
  - CLEAN STONE FLOW CONTROL CHECK DAMS TO BE MADE OF LOCALLY WON / GEOLOGICALLY SIMILAR WELL GRADED STONE. AGGREGATE SIZE FOR STONE CHECK DAMS TO BE TYPICALLY 20- 40MM CLEAN STONE. ON SLOPING SECTIONS OF THE ACCESS TRACKS, 40MM CHECK DAMS TO BE PROTECTED FROM WASHING AWAY THROUGH THE PLACEMENT OF 100M STONE ON THE DOWNHILL FACE OF THE CHECK DAM AND BY WRAPPING IN GEOTEXTILE.
  - BUILD UP OF SILT LEVELS AT CHECK DAMS TO BE REMOVED AND DISPOSED OF APPROPRIATELY. SILT LEVELS AT CHECK DAMS TO BE VISUALLY INSPECTED AS PART OF AN ONGOING DRAINAGE MAINTENANCE PROGRAMME DURING THE CONSTRUCTION PHASE. WHERE CHECK DAMS BECOME CLOGGED WITH SILT OR VEGETATION, STONE CHECK DAM TO BE REMOVED AND REPLACED SUBSEQUENT TO THE REMOVAL OF SILT.
  - SPACING AND FREQUENCY OF CHECK DAMS WILL BE DEPENDENT UPON LONGITUDINAL GRADIENT OF SWALE.
  - LOCATION OF FILTRATION CHECK DAMS (IF REQUIRED) TO BE AGREED ON SITE WITH ENGINEER. SETTLEMENT PONDS TO BE CONSTRUCTED IN A MANNER WHERE THEY MAY BE EASILY INFILLED AT A LATER DATE (POST COMPLETION OF THE TURBINE BASE AND HARDSTAND CONSTRUCTION). ONLY SUITABLE MATERIALS EXCAVATED FROM THE POND TO BE USED TO FORM PART OF THE EMBANKMENT AROUND THE POND.
  - OIL/FUEL SHOULD BE STORED WITHIN BUNDED CONTAINMENT STRUCTURES.
  - SILT BAGS WILL BE USED ON SITE AT FIELD DRAIN DISCHARGE LOCATIONS, AS NECESSARY.

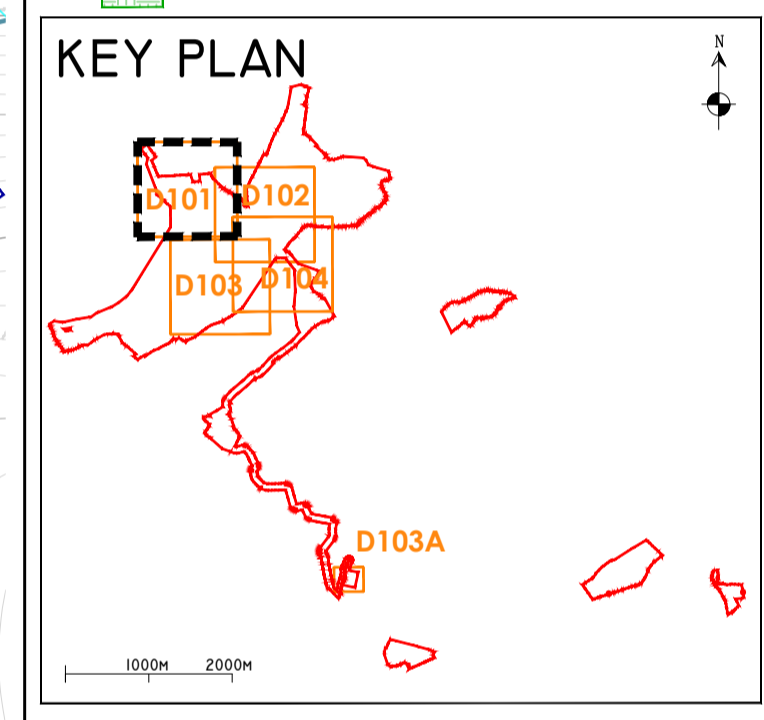


**MITIGATION / DRAINAGE COINTROLS AVAILABLE FOR USE ACROSS THE SITE**

MANAGEMENT TYPE	DESCRIPTION OF SUDS DRAINAGE CONTROL METHODS
<b>AVOIDANCE CONTROLS</b>	<ol style="list-style-type: none"> <li>APPLICATION OF 50M BUFFER ZONES TO NATURAL WATERCOURSES WHERE POSSIBLE</li> <li>APPLICATION OF 10M BUFFER ZONES TO MAIN DRAINS WHERE POSSIBLE</li> <li>USING SMALL WORKING AREAS</li> <li>WORKING IN APPROPRIATE WEATHER, AND SUSPENDING CERTAIN WORK ACTIVITIES IN ADVANCE OF FORECASTED WET WEATHER</li> </ol>
<b>SOURCE CONTROLS:</b>	<ol style="list-style-type: none"> <li>USE OF UPSTREAM INTERCEPTOR DRAINS AND DOWNSTREAM COLLECTOR DRAINS / OVERSIZED SWALES, VEE-DRAINS, DIVERSION DRAINS, FLUMES AND CULVERT PIPES</li> <li>EROSION AND VELOCITY CONTROL MEASURES SUCH AS:                     <ul style="list-style-type: none"> <li>A) SAND BAGS</li> <li>B) OYSTER BAGS FILLED WITH GRAVEL</li> <li>C) FILTER FABRICS</li> <li>D) AND OTHER SIMILAR/EQUIVALENT OR APPROPRIATE SYSTEMS</li> </ul> </li> <li>USING SMALL WORKING AREAS</li> <li>SURROUNDING STOCKPILES WITH SILT FENCING</li> <li>WEATHERING OFF / SEALING PEAT STOCKPILES</li> </ol>
<b>IN-LINE CONTROLS:</b>	<ol style="list-style-type: none"> <li>INTERCEPTOR DRAINS, VEE-DRAINS, OVERSIZED SWALES/COLLECTOR DRAINS</li> <li>EROSION AND VELOCITY CONTROL MEASURES SUCH AS:                     <ul style="list-style-type: none"> <li>A) SAND BAGS</li> <li>B) OYSTER BAGS FILLED WITH GRAVEL</li> <li>C) FILTER FABRICS</li> <li>D) STRAW BALES</li> <li>E) FLOW LIMITERS</li> <li>F) WEIRS OR BAFFLES</li> <li>G) AND/OR OTHER SIMILAR/EQUIVALENT OR APPROPRIATE SYSTEMS.</li> </ul> </li> <li>SILT FENCES, FILTER FABRICS</li> <li>IN-STREAM SEDIMENTS</li> <li>COLLECTION SIMPS, TEMPORARY SIMPS, PUMPING SYSTEMS</li> <li>ATTENUATION LAGOONS</li> <li>SEDIMENT TRAPS, STILLING / SETTLEMENT PONDS</li> </ol>
<b>WATER TREATMENT CONTROLS:</b>	<ol style="list-style-type: none"> <li>TEMPORARY SIMPS</li> <li>ATTENUATION PONDS</li> <li>TEMPORARY STORAGE LAGOONS</li> <li>SEDIMENT TRAPS, STILLING / SETTLEMENT PONDS</li> <li>PROPRIETARY SETTLEMENT SYSTEMS SUCH AS SILTBUSTER, AND/OR OTHER SIMILAR/EQUIVALENT OR APPROPRIATE SYSTEMS.</li> </ol>
<b>OUTFALL CONTROLS:</b>	<ol style="list-style-type: none"> <li>SILT DEWATERING BAGS</li> <li>LEVELSPREADERS</li> <li>BUFFERED OUTFALLS</li> <li>VEGETATION FILTERS</li> <li>SILT DEWATERING BAGS</li> <li>FLOW LIMITERS AND WEIRS</li> </ol>

**DRAWING LEGEND:**

- WATERCOURSES
- WATERCOURSE 50M BUFFER
- WATERCOURSE FLOW DIRECTION
- DRAINAGE FLOW/RUNOFF DIRECTION/GROUND SLOPE
- EXISTING DRAINS
- REDIRECTED DRAINS
- MAPPED FORESTRY DRAINS
- MAPPED DRAINAGE PATHWAYS >150M LENGTH\*
- POTENTIAL DRAINAGE FLOWPATHS ARE MODELLED BASED ON LOGR DATA AND DO NOT INDICATE THE PRESENCE OF A DRAIN OR WATERCOURSE DOMINATED BY RECHARGE TO GROUND.
- UPSTREAM INTERCEPTOR DRAIN
- SWALE/DOWNSTREAM COLLECTOR DRAIN (DSCD)
- DSCD OR OVER THE EDGE (O/E)
- DIRECTION OF FLOW
- SILT FENCES (SF)
- DOUBLE SILT FENCES (DSF)
- SETTLEMENT POND - LEVEL SPREADER
- SETTLEMENT POND - VEGETATION FILTER - LEVEL SPREADER
- CHECK DAM 'TYPE A'
- CHECK DAM 'TYPE B'
- FORESTRY DRAIN CHECK DAM
- PROPOSED WE CROSSINGS
- EXISTING WE CROSSINGS
- PROPOSED NEW ROAD
- PROPOSED ACCESS TRACK ALONG UNDERGROUND CABLES
- PUBLIC ROAD
- BORDERWAY FIT
- TEMPORARY CONSTRUCTION COMPOUND
- PROPOSED EXTENSION TO EXISTING SUELVACALLAN 10KV SUBSTATION
- EXISTING SUELVACALLAN 10KV SUBSTATION
- NET PAST
- PEAT AND SPOIL MANAGEMENT AREA
- PROPOSED GRID CONNECTION SITE
- 33KV UNDERGROUND CABLE ROUTE
- FILL AREA
- CUT AREA
- PROPOSED PARSH FITZPELLING ENHANCEMENT AREA
- PROPOSED CLEARFELLING ENHANCEMENT AREA



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Date	Description	Chkd	Signed

Revisions

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Client: **ENERCO ENERGY LTD**

Job: **SLIEVEACURRY RENEWABLE ENERGY DEVELOPMENT**

Title: **PROPOSED DRAINAGE LAYOUT**

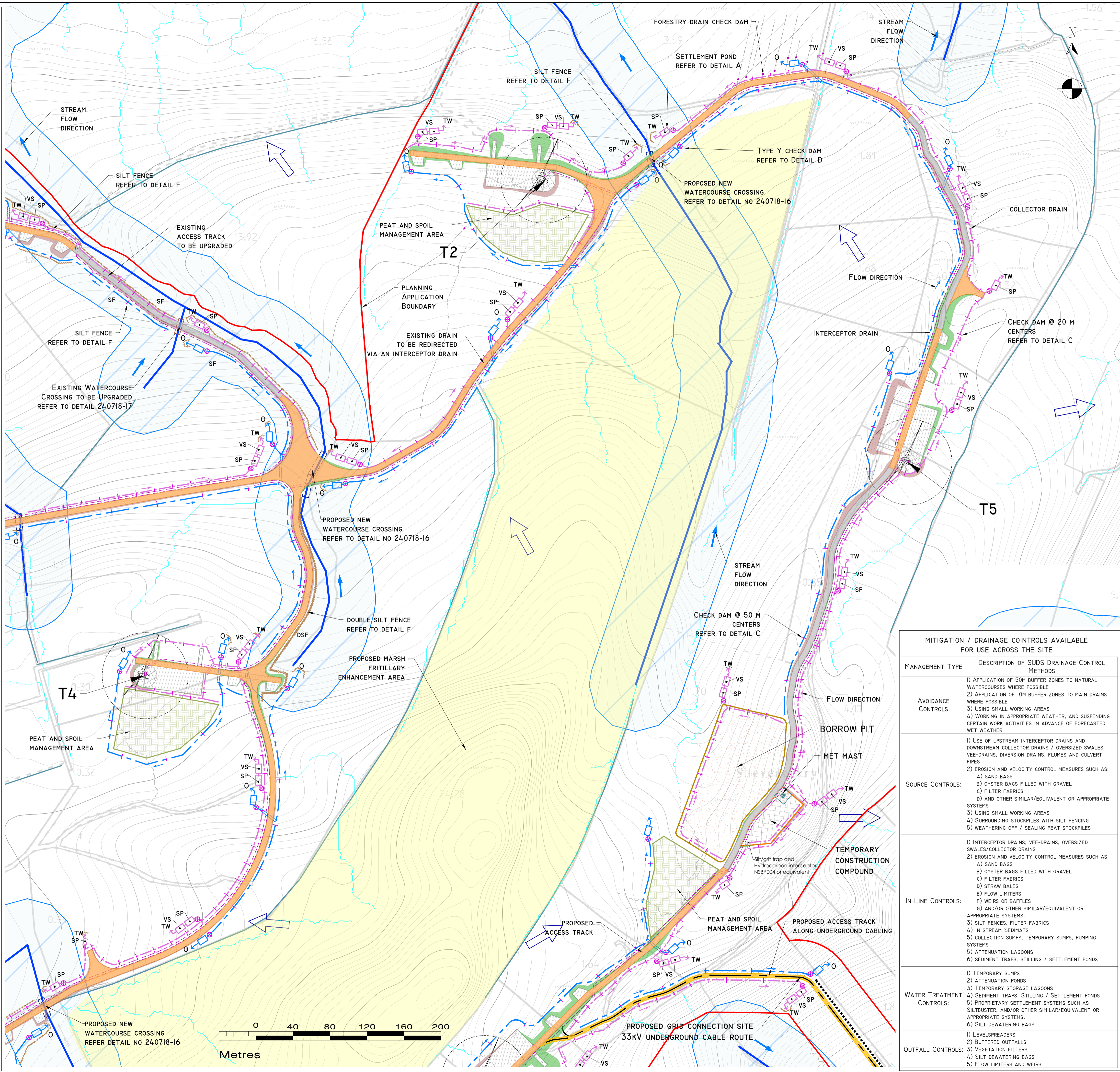
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Drawing No: **P1159-5-0426-A1-D101-00D**

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Date: 20/04/2026 Checked By: MG

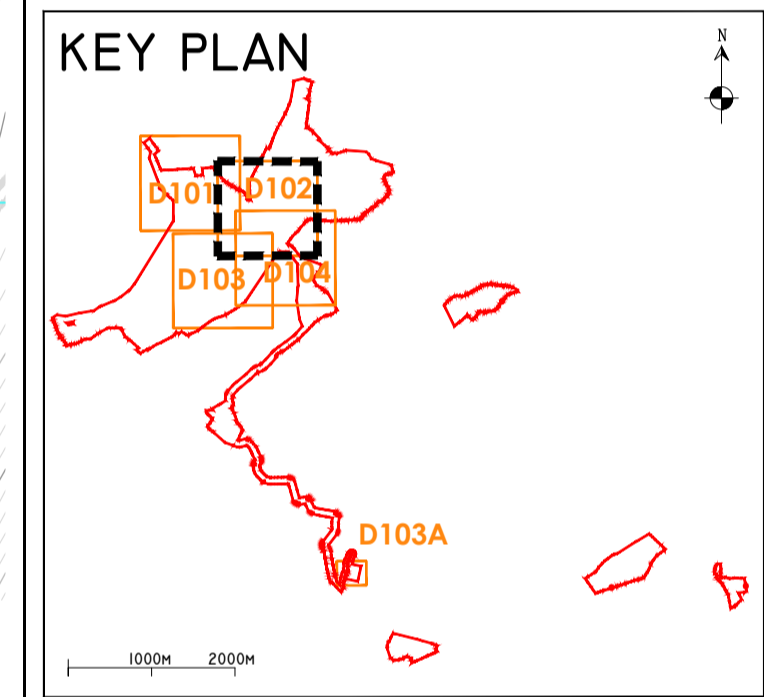
**POLLUTION PREVENTION NOTES:**

- SITE MANAGEMENT PROPOSALS ARE INTENDED TO ENSURE PROTECTION AGAINST SURFACE WATER AND GROUNDWATER POLLUTION, SURFACE WATER SILTATION, AND STREAM BANK AND LAND EROSION.
  - SUITABLE DRAINAGE CONTROL MEASURES SHOULD BE IN PLACE AT ALL TIMES TO PREVENT CONVEYANCE OF SIGNIFICANT VOLUMES OF SILT TO OFF SITE RECEIVING WATERCOURSES.
  - SILTY WATER CAN ARISE FROM DEWATERING EXCAVATIONS, EROSION OF EXPOSED/DISTURBED GROUND, EROSION OF TEMPORARY STOCKPILES, PLANT AND WHEEL WASH WATER, RUNOFF FROM SITE ROADS/TRACKS, AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.
- DISCHARGES**
- WATER CONTAINING SILT WILL NOT BE PUMPED DIRECTLY TO ANY NATURAL WATERCOURSE. ALL DISCHARGES TO BE MADE OVER OPEN GROUND OR INTO EXISTING FIELD DRAIN WITH SILT TRAP AT A MINIMUM 20M FROM NEAREST WATERCOURSE UNLESS OTHERWISE STATED.
  - NO EXCAVATED MATERIAL IS TO BE STORED WITHIN ANY SURFACE WATER BUFFER ZONE.
  - PUMPED WATER WILL BE DIRECTED INTO TRACK SIDE DITCHES AND TREATED IN SETTLEMENT PONDS AND VEGETATION SWALES PRIOR TO OVERLAND DISCHARGE.
  - PUMPING OF CLEAN WATER FROM EXCAVATIONS / OR OVER-PUMPING INTO FIELD DRAINS/DITCHES/STREAMS WILL BE COMPLETED IN A MANNER THAT DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF RELEASE/DISCHARGE. THIS WILL BE DONE BY REDUCING THE FLOW VELOCITIES OR BY USE OF SPREAD PLATES, AND OTHER SIMILAR DISCHARGE CONTROLS.
  - VEGETATION WILL NOT BE STRIPPED FROM EXISTING FIELD DRAINS/DITCHES UNLESS ABSOLUTELY NECESSARY.
- EXCAVATIONS**
- WHERE DEEP EXCAVATIONS ARE PROPOSED CUT-OFF DRAINS WILL BE USED TO REDUCE THE AMOUNT OF SURFACE WATER ENTERING THE EXCAVATION. THIS WILL BE THE CASE AROUND TURBINE BASE EXCAVATIONS.
- EXPOSED GROUND & STOCKPILES**
- THE AMOUNT OF EXPOSED GROUND AND TEMPORARY STOCKPILES OPEN AT ANY ONE TIME WILL BE MINIMISED, AS FAR AS PRACTICABLE.
- SITE TRACKS**
- USE OF TRACK SIDE SWALES WITH CHECK DAMS, AND/OR FILTRATION CHECK DAMS WILL REDUCE SILT IN RUNOFF WATER AS REQUIRED.
  - CHECK DAMS TO BE INSPECTED AND CLEANED REGULARLY.
- REFUELLING**
- REFUELLING WILL BE COMPLETED IN LINE WITH CEMP REQUIREMENTS AND AWAY FROM FIELD DRAINS / DITCHES AND WATERBODIES.
  - SPILL KITS AND DRIP TRAYS WILL BE AVAILABLE ON SITE FOR USE AS REQUIRED.
- CONCRETE**
- CARE WILL BE TAKEN WHEN COMPLETING CONCRETE WORKS ON SITE TO ENSURE NO DISCHARGES OF CONCRETE OR WASH WATER OCCURS.
  - CONCRETE WASH WATER, AND WASTE CONCRETE WILL BE MANAGED APPROPRIATELY ON SITE.
- IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING STEPS WOULD BE ADHERED TO:**
- STOP** - WORK IN THE IMMEDIATE AREA SHOULD BE STOPPED AND THE SOURCE OF THE POLLUTION IDENTIFIED.
- CONTAIN** - THE SOURCE OF THE POLLUTION SHOULD BE BUNDED USING A SUITABLE METHOD. NATURAL WATERCOURSES SHOULD BE TEMPORARILY DIVERTED AROUND THE SOURCE OF POLLUTION.
- NOTIFY** - THE RELEVANT AUTHORITIES (SITE MANAGER / INLAND FISHERIES IRELAND / NPWS / LOCAL AUTHORITY ETC.) SHOULD BE NOTIFIED IMMEDIATELY TO ENSURE THAT MEASURES CAN BE IMPLEMENTED DOWNSTREAM TO PROTECT FISHERIES AND OTHER SENSITIVE AREAS, IF REQUIRED.
- DRAINAGE NOTES:**
- ROADWAY SURFACING DESIGN AND CONSTRUCTION TO ENGINEER'S SPECIFICATION.
  - SPARE STRAW BALES/SILT FENCING/ OR SIMILAR, TO BE STORED ON SITE. THE LEVEL OF SILT IN RUNOFF DURING CONSTRUCTION IS TO BE MONITORED VISUALLY AND EXCESSIVE SILT LEVELS IN ANY AREA TO BE TEMPORARILY MANAGED BY PLACING SILT FENCES, STRAW BALES / OR SIMILAR OR ADDITIONAL CHECK DAMS AT THE PROBLEM AREAS.
  - SUDS SYSTEM TO BE CONSTRUCTED PRIOR TO, OR AT THE SAME TIME AS THE ACCESS TRACKS. INTERIM MEASURES SUCH AS THE PLACEMENT OF STRAW BALES/SILT FENCING/OR SIMILAR APPROVED METHOD OR ADDITIONAL CHECK DAMS AND SILT FENCES TO BE EMPLOYED IN ALL INSTANCES WHERE WORK CARRIED OUT TO CONSTRUCT THE ACCESS TRACKS IS LIKELY TO CAUSE ADVERSE ENVIRONMENTAL EFFECTS THROUGH INCREASED SILT LOADINGS BEING GENERATED DURING THE CONSTRUCTION PHASE.
  - SUITABLE PREVENTION MEASURES SHOULD BE IN PLACE AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SILT TO RECEIVING WATERCOURSES. SEE NOTES ON POLLUTION PREVENTION.
  - INTERCEPTOR SWALES / DITCHES TO BE USED TO COLLECT UPSTREAM SURFACE WATER FLOWS. REGULAR CROSS DRAINS / DISCHARGE TO FIELD DITCHES WILL BE REQUIRED TO TRANSFER / DISCHARGE SURFACE WATER IN INTERCEPTOR DRAINS TO SUITABLE FIELD DRAIN OUTFALL POINTS.
  - DRAINAGE SWALES / DITCHES TO BE EXCAVATED ADJACENT TO THE ACCESS TRACKS. REGULAR CROSS DRAINS TO BE LOCATED ALONG ACCESS TRACKS TO PREVENT EXCESSIVE VOLUMES OF WATER COLLECTING IN THE SWALES / DITCHES. LOCATIONS OF CROSS DRAINS TO BE AGREED WITH THE ENGINEER ON SITE. SURFACE WATER WILL NOT BE ALLOWED TO DISCHARGE DIRECTLY INTO EXISTING WATERCOURSES.
  - WHERE POSSIBLE, A BUFFER ZONE OF >20M TO ANY EXISTING WATERCOURSE WILL BE REQUIRED WHERE OVER LAND DISCHARGES ARE PROPOSED FROM ACCESS TRACK SWALES / DITCHES.
  - DITCHES OF ALL PROPOSED SWALES / DITCHES TO HAVE A SLOPE OF BETWEEN 1 : 1.5 TO 1 : 2 DEPENDING UPON DEPTH OF SWALE/DITCH AND WILL BE LEFT AS CUT TO RE-VEGETATE WITH LOCAL SPECIES.
  - TRACK SIDE SWALES / DITCHES TO BE SHALLOW WITH MODERATE GRADIENTS TO PREVENT SCOURING. IN STEEP AREAS CHECK DAMS SHOULD BE INSTALLED TO REDUCE FLOW VELOCITIES AND PROVIDE SOURCE CONTROL OF SILT CONTAINMENT. WHERE NECESSARY THESE HAVE BEEN DESIGNATED IN CONJUNCTION WITH SETTLEMENT PONDS AND SILT TRAPS, PRIOR TO DISCHARGE.
  - SETTLEMENT PONDS TO BE CONSTRUCTED FOR SILT REMOVAL AT TURBINE BASES AND HARD STAND AREAS. POND SIZES DEPENDS ON CATCHMENT AREA SERVED. SAMPLE POND SIZES SHOWN ON DRAWING D501.
  - STRAW BALES / OR SIMILAR AND SILT FENCES TO BE USED ALSO AROUND SPOIL HEAPS TO MITIGATE SILT RUNOFF. SILT FENCES MAY BE REMOVED WHEN SUITABLE VEGETATION COVER IS ESTABLISHED.
  - SILT FENCES TO BE PROVIDED ALONG EDGE OF EXISTING WATERCOURSE WHERE WORKS COMES WITHIN <20M OF EDGE OF ANY DITCH / EPHEMERAL CHANNELS.
  - SLOPES OF THE SWALES / DITCHES TO BE VEGETATED OR PROTECTED FROM EROSION UNTIL VEGETATION HAS BEEN ESTABLISHED. STRIPPED VEGETATIVE LAYER (PEAT 'SOD' OR 'SCRAW') FROM EXCAVATIONS TO BE STORED LOCALLY AND USED TO LINE SLOPES AND BASE OF SWALES / DITCHES OR LONGITUDINAL MOUNDS OF VEGETATION SWALES AT FIELD DRAIN DISCHARGE POINTS.
  - AREAS STRIPPED OF VEGETATION SHOULD BE KEPT TO A MINIMUM.
  - CLEAN STONE FLOW CONTROL CHECK DAMS TO BE MADE OF LOCALLY WON / GEOLOGICALLY SIMILAR WELL GRADED STONE. AGGREGATE SIZE FOR STONE CHECK DAMS TO BE TYPICALLY 20- 40MM CLEAN STONE. ON SLOPING SECTIONS OF THE ACCESS TRACKS, 40MM CHECK DAMS TO BE PROTECTED FROM WASHING AWAY THROUGH THE PLACEMENT OF 100M STONE ON THE DOWNHILL FACE OF THE CHECK DAM AND BY WRAPPING IN GEOTEXTILE.
  - BUILD UP OF SILT LEVELS AT CHECK DAMS TO BE REMOVED AND DISPOSED OF APPROPRIATELY. SILT LEVELS AT CHECK DAMS TO BE VISUALLY INSPECTED AS PART OF AN ONGOING DRAINAGE MAINTENANCE PROGRAMME DURING THE CONSTRUCTION PHASE. WHERE CHECK DAMS BECOME CLOGGED WITH SILT OR VEGETATION, STONE CHECK DAM TO BE REMOVED AND REPLACED SUBSEQUENT TO THE REMOVAL OF SILT.
  - CLEAN STONE FLOW CONTROL CHECK DAMS WILL BE DEPENDENT UPON LONGITUDINAL GRADIENT OF SWALE.
  - LOCATION OF FILTRATION CHECK DAMS (IF REQUIRED) TO BE AGREED ON SITE WITH ENGINEER. SETTLEMENT PONDS TO BE CONSTRUCTED IN A MANNER WHERE THEY MAY BE EASILY INFILLED AT A LATER DATE (POST COMPLETION OF THE TURBINE BASE AND HARDSTAND CONSTRUCTION). ONLY SUITABLE MATERIALS EXCAVATED FROM THE POND TO BE USED TO FORM PART OF THE EMBANKMENT AROUND THE POND.
  - OIL/FUEL TO BE STORED WITHIN BUNDED CONTAINMENT STRUCTURES.
  - SILT BAGS WILL BE USED ON SITE AT FIELD DRAIN DISCHARGE LOCATIONS, AS NECESSARY.



**DRAWING LEGEND:**

- WATERCOURSES
- WATERCOURSE 50M BUFFER
- WATERCOURSE FLOW DIRECTION
- DRAINAGE FLOW RUNOFF DIRECTION/SLOPE
- EXISTING DRAINS
- REDIRECTED DRAINS
- MAPPED DRAINAGE PATHWAYS >150M LENGTH\*
- POTENTIAL DRAINAGE FLOWPATHS ARE MODELLED BASED ON LIAR DATA AND IT REGULATE THE PRESENCE OF A DRAIN OR WATERCOURSE DOMINATED BY RECHARGE TO GROUND.
- UPSTREAM INTERCEPTOR DRAIN
- SWALE/DRAINAGE COLLECTOR DRAIN (SDCD) OR OVER THE EDGE (O/E)
- DIRECTION OF FLOW
- SILT FENCES (SF)
- DOUBLE SILT FENCES (DSF)
- SETTLEMENT POND - LEVEL SPREADER
- SETTLEMENT POND - VEGETATION FILTER - LEVEL SPREADER
- CHECK DAM 'TYPE A'
- CHECK DAM 'TYPE B'
- FORESTRY DRAIN CHECK DAM
- EXISTING WE CROSSINGS
- PROPOSED WE CROSSINGS
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- OVERLAND FLOW DISCHARGE
- TREATED WATER DISCHARGE
- SETTLEMENT POND
- SP - NATURAL VEGETATION SWALE / FILTER BED / SECONDARY SP
- PUMPING SUMP
- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE (MAJOR CONTOUR @ 0.5 M INTERVAL)
- EXISTING GROUND SURFACE (MINOR CONTOUR @ 0.1 M INTERVAL)
- TURBINE AND SWEET AREA
- TURBINE FOUNDATION
- TURBINE HARDSTAND
- UPGRADES TO EXISTING ROADS
- PROPOSED NEW ROAD
- PROPOSED ACCESS TRACK ALONG UNDERGROUND CABLING
- PUBLIC ROAD
- BORROW PIT
- TEMPORARY CONSTRUCTION COMPOUND
- PROPOSED EXTENSION TO EXISTING SLEWECALLAN 10KV SUBSTATION
- EXISTING SLEWECALLAN 10KV SUBSTATION
- MET MAST
- PEAT AND SPOIL MANAGEMENT AREA
- PROPOSED GRID CONNECTION SITE
- 33KV UNDERGROUND CABLE ROUTE
- FILL AREA
- CUT AREA
- PROPOSED HARSH FRITILLARY ENHANCEMENT AREA
- PROPOSED CLEARFELLING ENHANCEMENT AREA



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Client: **ENERCO ENERGY LTD**

Job: **SLIEVEACURRY RENEWABLE ENERGY DEVELOPMENT**

Title: **PROPOSED DRAINAGE LAYOUT**

Figure No: **D102**

Drawing No: **P1159-5-0426-A1-D102-00C**

Sheet Size: **A1** Project No.: **P1159-5**

Scale: **1:2,000 (A1)** Drawn By: **GA**

Date: **16/04/2026** Checked By: **MG**

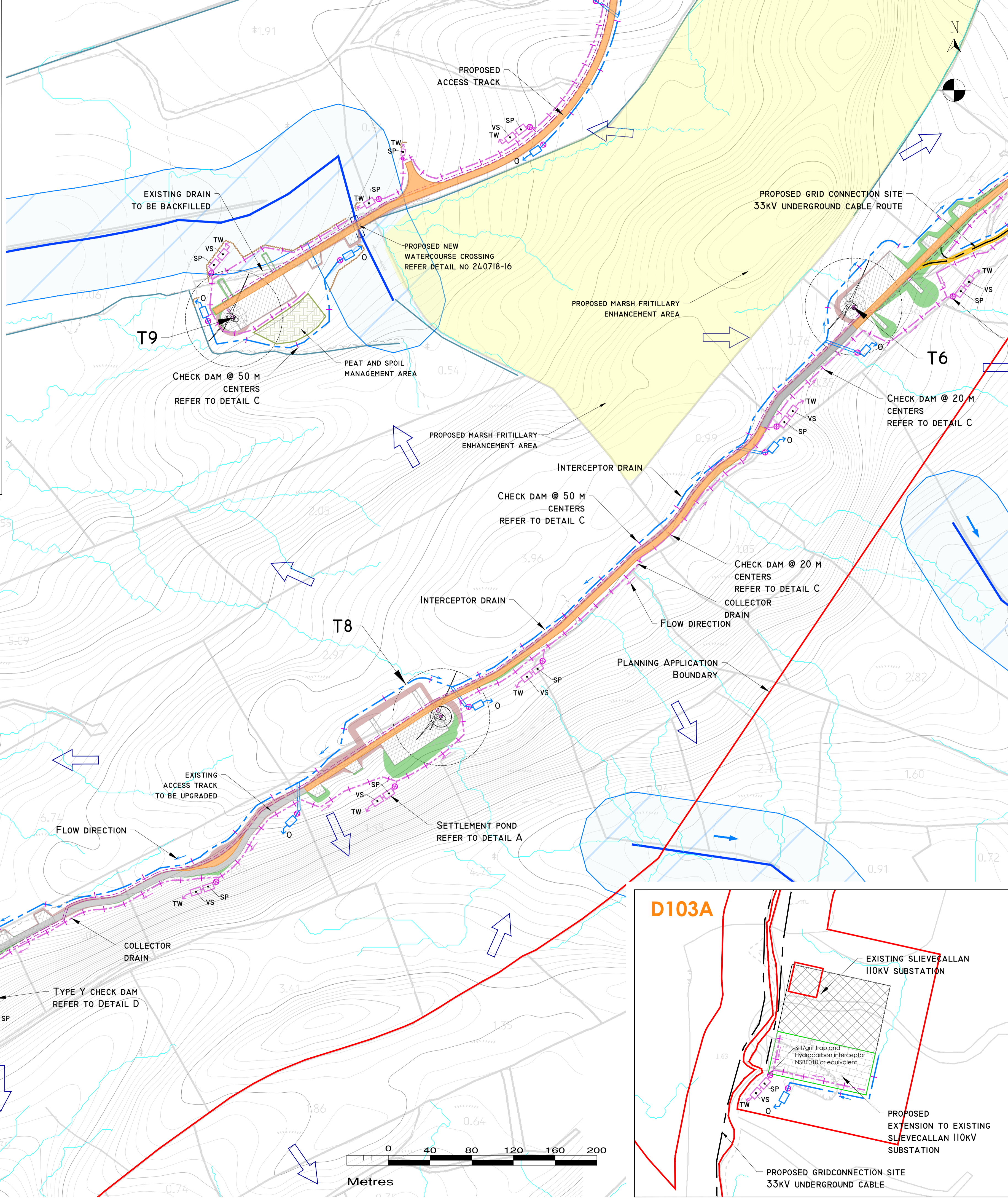
**MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE**

MANAGEMENT TYPE	DESCRIPTION OF SUDS DRAINAGE CONTROL METHODS
AVOIDANCE CONTROLS	<ol style="list-style-type: none"> <li>APPLICATION OF 50M BUFFER ZONES TO NATURAL WATERCOURSES WHERE POSSIBLE</li> <li>APPLICATION OF 10M BUFFER ZONES TO MAIN DRAINS WHERE POSSIBLE</li> <li>USING SMALL WORKING AREAS</li> <li>WORKING IN APPROPRIATE WEATHER, AND SUSPENDING CERTAIN WORK ACTIVITIES IN ADVANCE OF FORECASTED WET WEATHER</li> </ol>
SOURCE CONTROLS	<ol style="list-style-type: none"> <li>USE OF UPSTREAM INTERCEPTOR DRAINS AND DOWNSTREAM COLLECTOR DRAINS / OVERSIZED SWALES, VEE-DRAINS, DIVERSION DRAINS, FLUMES AND CULVERT PIPES</li> <li>EROSION AND VELOCITY CONTROL MEASURES SUCH AS:                     <ol style="list-style-type: none"> <li>SAND BAGS</li> <li>OYSTER BAGS FILLED WITH GRAVEL</li> <li>FILTER FABRICS</li> <li>AND OTHER SIMILAR/EQUIVALENT OR APPROPRIATE SYSTEMS</li> </ol> </li> <li>USING SMALL WORKING AREAS</li> <li>SURROUNDING STOCKPILES WITH SILT FENCING</li> <li>WEATHERING OFF / SEALING PEAT STOCKPILES</li> </ol>
IN-LINE CONTROLS	<ol style="list-style-type: none"> <li>INTERCEPTOR DRAINS, VEE-DRAINS, OVERSIZED SWALES/COLLECTOR DRAINS</li> <li>EROSION AND VELOCITY CONTROL MEASURES SUCH AS:                     <ol style="list-style-type: none"> <li>SAND BAGS</li> <li>OYSTER BAGS FILLED WITH GRAVEL</li> <li>FILTER FABRICS</li> <li>STRAW BALES</li> <li>FLOW LIMITERS</li> <li>WEIRS OR BAFFLES</li> <li>AND/OR OTHER SIMILAR/EQUIVALENT OR APPROPRIATE SYSTEMS.</li> </ol> </li> <li>SILT FENCES, FILTER FABRICS</li> <li>IN STREAM SEDIMENTS</li> <li>COLLECTION SUMPS, TEMPORARY SUMPS, PUMPING SYSTEMS</li> <li>ATTENUATION LAGOONS</li> <li>SEDIMENT TRAPS, STILLING / SETTLEMENT PONDS</li> </ol>
WATER TREATMENT CONTROLS	<ol style="list-style-type: none"> <li>TEMPORARY SUMPS</li> <li>ATTENUATION PONDS</li> <li>TEMPORARY STORAGE LAGOONS</li> <li>SEDIMENT TRAPS, STILLING / SETTLEMENT PONDS</li> <li>PROPRIETARY SETTLEMENT SYSTEMS SUCH AS SILTBUSTER, AND/OR OTHER SIMILAR/EQUIVALENT OR APPROPRIATE SYSTEMS.</li> <li>SILT DEWATERING BAGS</li> </ol>
OUTFALL CONTROLS	<ol style="list-style-type: none"> <li>LEVELSPREADERS</li> <li>BUFFERED OUTFALLS</li> <li>VEGETATION FILTERS</li> <li>SILT DEWATERING BAGS</li> <li>FLOW LIMITERS AND WEIRS</li> </ol>

**POLLUTION PREVENTION NOTES:**

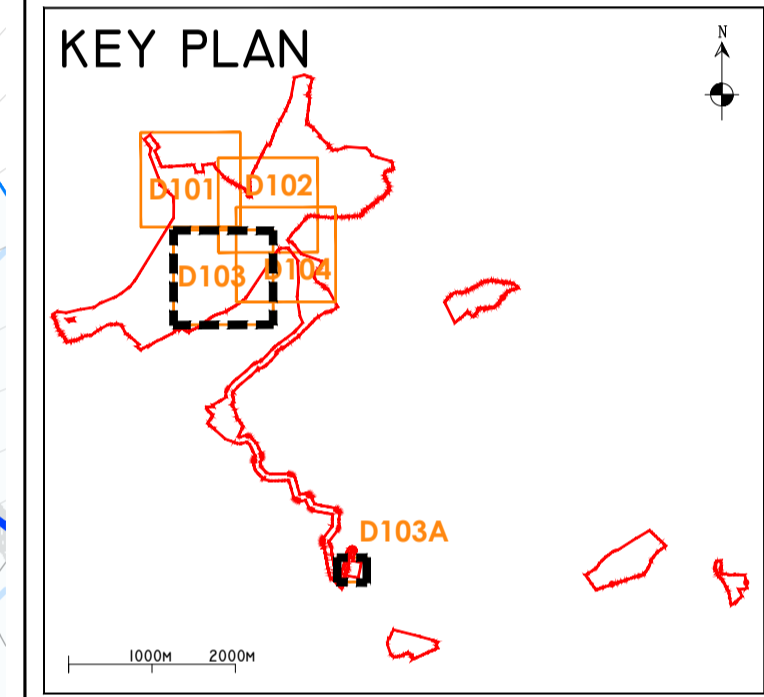
- SITE MANAGEMENT PROPOSALS ARE INTENDED TO ENSURE PROTECTION AGAINST SURFACE WATER AND GROUNDWATER POLLUTION, SURFACE WATER SILTATION, AND STREAM BANK AND LAND EROSION.
  - SUITABLE DRAINAGE CONTROL MEASURES SHOULD BE IN PLACE AT ALL TIMES TO PREVENT CONVEYANCE OF SIGNIFICANT VOLUMES OF SILT TO OFF SITE RECEIVING WATERCOURSES.
  - SILTY WATER CAN ARISE FROM DEWATERING EXCAVATIONS, EROSION OF EXPOSED/DISTURBED GROUND, EROSION OF TEMPORARY STOCKPILES, PLANT AND WHEEL WASH WATER, RINSEOFF FROM STOCKPILES, TRACKS, AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.
- DISCHARGES**
- WATER CONTAINING SILT WILL NOT BE PUMPED DIRECTLY TO ANY NATURAL WATERCOURSE. ALL DISCHARGES TO BE MADE OVER OPEN GROUND OR INTO EXISTING FIELD DRAIN WITH SILT TRAP A MINIMUM 20M FROM NEAREST WATERCOURSE UNLESS OTHERWISE STATED.
  - NO EXCAVATED MATERIAL IS TO BE STORED WITHIN ANY SURFACE WATER BUFFER ZONE.
  - PUMPED WATER WILL BE DIRECTED INTO TRACK SIDE DITCHES AND TREATED IN SETTLEMENT PONDS AND VEGETATION SWALES PRIOR TO OVERLAND DISCHARGE.
  - PUMPING OF CLEAN WATER FROM EXCAVATIONS / OR OVER-PUMPING INTO FIELD DRAINS/DITCHES/STREAMS WILL BE COMPLETED IN A MANNER THAT DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF RELEASE/DISCHARGE. THIS WILL BE DONE BY REDUCING THE FLOW VELOCITIES OR BY USE OF SPLASH FLATES, AND OTHER SIMILAR DISCHARGE CONTROLS.
  - VEGETATION WILL NOT BE STRIPPED FROM EXISTING FIELD DRAINS/DITCHES UNLESS ABSOLUTELY NECESSARY.
- EXCAVATIONS**
- WHERE DEEP EXCAVATIONS ARE PROPOSED CUT-OFF DRAINS WILL BE USED TO REDUCE THE AMOUNT OF SURFACE WATER OVER THE EXCAVATION. THIS WILL BE THE CASE AROUND TURBINE BASE EXCAVATIONS.
- EXPOSED GROUND & STOCKPILES**
- THE AMOUNT OF EXPOSED GROUND AND TEMPORARY STOCKPILES OPEN AT ANY ONE TIME WILL BE MINIMISED, AS FAR AS PRACTICABLE.
- SITE TRACKS**
- USE OF TRACK SIDE SWALES WITH CHECK DAMS, AND/OR FILTRATION CHECK DAMS WILL REDUCE SILT IN RUNOFF WATER AS REQUIRED.
  - CHECK DAMS TO BE INSPECTED AND CLEANED REGULARLY.
- REFUELLING**
- REFUELLING WILL BE COMPLETED IN LINE WITH CEMP REQUIREMENTS AND AWAY FROM FIELD DRAINS / DITCHES AND WATERCOURSES / WATERBODIES.
  - SPILL KITS AND DRIP TRAYS WILL BE AVAILABLE ON SITE FOR USE AS REQUIRED.
- CONCRETE**
- CARE WILL BE TAKEN WHEN COMPLETING CONCRETE WORKS ON SITE TO ENSURE NO DISCHARGES OF CONCRETE OR WASH WATER OCCURS.
  - CONCRETE WASH WATER, AND WASTE CONCRETE WILL BE MANAGED APPROPRIATELY ON SITE.
- IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING STEPS WOULD BE ADHERED TO:**
- STOP** - WORK IN THE IMMEDIATE AREA SHOULD BE STOPPED AND THE SOURCE OF THE POLLUTION IDENTIFIED.
- CONTAIN** - THE SOURCE OF THE POLLUTION SHOULD BE BUNDED USING A SUITABLE METHOD. NATURAL WATERCOURSES SHOULD BE TEMPORARILY DIVERTED AROUND THE SOURCE OF POLLUTION.
- NOTIFY** - THE RELEVANT AUTHORITIES (SITE MANAGER / INLAND FISHERIES IRELAND / NPWS / LOCAL AUTHORITY ETC.) SHOULD BE NOTIFIED IMMEDIATELY TO ENSURE THAT MEASURES CAN BE IMPLEMENTED DOWNSTREAM TO PROTECT FISHERIES AND OTHER SENSITIVE AREAS, IF REQUIRED.
- DRAINAGE NOTES:**
- ROADWAY SURFACING DESIGN AND CONSTRUCTION TO ENGINEER'S SPECIFICATION.
  - SPARE STRAW BALES/SILT FENCING/ OR SIMILAR, TO BE STORED ON SITE. THE LEVEL OF SILT IN RUNOFF DURING CONSTRUCTION IS TO BE MONITORED VISUALLY AND EXCESSIVE SILT LEVELS IN ANY AREA TO BE TEMPORARILY MANAGED BY PLACING SILT FENCES, STRAW BALES / OR SIMILAR OR ADDITIONAL CHECK DAMS AT THE PROBLEM AREAS.
  - SUDS SYSTEM TO BE CONSTRUCTED PRIOR TO, OR AT THE SAME TIME AS THE ACCESS TRACKS. INTERIM MEASURES SUCH AS THE PLACEMENT OF STRAW BALES/SILT FENCING/OR SIMILAR APPROVED METHOD OR ADDITIONAL CHECK DAMS AND SILT FENCES TO BE EMPLOYED IN ALL INSTANCES WHERE WORK CARRIED OUT TO CONSTRUCT THE ACCESS TRACKS IS LIKELY TO CAUSE ADVERSE ENVIRONMENTAL EFFECTS THROUGH INCREASED SILT LOADINGS BEING GENERATED DURING THE CONSTRUCTION PHASE.
  - SUITABLE PREVENTION MEASURES SHOULD BE IN PLACE AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SILT TO RECEIVING WATERCOURSES. SEE NOTES ON POLLUTION PREVENTION.
  - INTERCEPTOR SWALES / DITCHES TO BE USED TO COLLECT UPSTREAM SURFACE WATER FLOWS. REGULAR CROSS DRAINS / DISCHARGE TO FIELD DITCHES WILL BE REQUIRED TO TRANSFER / DISCHARGE SURFACE WATER IN INTERCEPTOR DRAINS TO SUITABLE FIELD DRAIN OUTFALL POINTS.
  - DRAINAGE SWALES / DITCHES TO BE EXCAVATED ADJACENT TO THE ACCESS TRACKS. REGULAR CROSS DRAINS TO BE LOCATED ALONG ACCESS TRACKS TO PREVENT EXCESSIVE VOLUMES OF WATER COLLECTING IN THE SWALES / DITCHES. LOCATIONS OF CROSS DRAINS TO BE AGREED WITH THE ENGINEER ON SITE. SURFACE WATER WILL NOT BE ALLOWED TO DISCHARGE DIRECTLY INTO EXISTING WATERCOURSES.
  - WHERE POSSIBLE, A BUFFER ZONE OF >20M TO ANY EXISTING WATERCOURSE WILL BE REQUIRED WHERE OVER LAND DISCHARGES ARE PROPOSED FROM ACCESS TRACK SWALES / DITCHES.
  - DITCHES OF ALL PROPOSED SWALES / DITCHES TO HAVE A SLOPE OF BETWEEN 1 : 1.5 TO 1 : 2 DEPENDING UPON DEPTH OF SWALE/DITCH AND WILL BE LEFT AS CUT TO RE-VEGETATE WITH LOCAL SPECIES.
  - TRACK SIDE SWALES / DITCHES TO BE SHALLOW WITH MODERATE GRADIENTS TO PREVENT SCOURING. IN STEEP AREAS CHECK DAMS SHOULD BE INSTALLED TO REDUCE FLOW VELOCITIES AND PROVIDE SOURCE CONTROL OF SILT CONTAINMENT. WHERE NECESSARY THESE HAVE BEEN DESIGNATED IN CONJUNCTION WITH SETTLEMENT PONDS AND SILT TRAPS, PRIOR TO DISCHARGE.
  - SETTLEMENT PONDS TO BE CONSTRUCTED FOR SILT REMOVAL AT TURBINE BASES AND HARD STAND AREAS. POND SIZES DEPENDS ON CATCHMENT AREA SERVED. SAMPLE POND SIZES SHOWN ON DRAWING D501.
  - STRAW BALES / OR SIMILAR AND SILT FENCES TO BE USED ALSO AROUND SPOIL HEAPS TO MITIGATE SILT RUNOFF. SILT FENCES MAY BE REMOVED WHEN SUITABLE VEGETATION COVER IS ESTABLISHED.
  - SILT FENCES TO BE PROVIDED ALONG EDGE OF EXISTING WATERCOURSE WHERE WORKS COMES WITHIN <20M OF EDGE OF ANY DITCH / EPHEMERAL CHANNELS.
  - SLOPES OF THE SWALES / DITCHES TO BE VEGETATED OR PROTECTED FROM EROSION UNTIL VEGETATION HAS BEEN ESTABLISHED. STRIPPED VEGETATIVE LAYER (PEAT 'SOD' OR 'SCRAW') FROM EXCAVATIONS TO BE STORED LOCALLY AND USED TO LINE SLOPES AND BASE OF SWALES / DITCHES OR LONGITUDINAL MOUNDS OF VEGETATION SWALES AT FIELD DRAIN DISCHARGE POINTS.
  - AREAS STRIPPED OF VEGETATION SHOULD BE KEPT TO A MINIMUM.
  - CLEAN STONE FLOW CONTROL CHECK DAMS TO BE MADE OF LOCALLY WON / GEOLOGICALLY SIMILAR WELL GRADED STONE. AGGREGATE SIZE FOR STONE CHECK DAMS TO BE TYPICALLY 20- 40MM CLEAN STONE. ON SLOPING SECTIONS OF THE ACCESS TRACKS, 40MM CHECK DAMS TO BE PROTECTED FROM WASHING AWAY THROUGH THE PLACEMENT OF 100MM STONE ON THE DOWNHILL FACE OF THE CHECK DAM AND BY WRAPPING IN GEOTEXTILE.
  - BUILD UP OF SILT LEVELS AT CHECK DAMS TO BE REMOVED AND DISPOSED OF APPROPRIATELY. SILT LEVELS AT CHECK DAMS TO BE VISUALLY INSPECTED AS PART OF AN ONGOING DRAINAGE MAINTENANCE PROGRAMME DURING THE CONSTRUCTION PHASE. WHERE CHECK DAMS BECOME CLOGGED WITH SILT OR VEGETATION, STONE CHECK DAMS TO BE REMOVED AND REPLACED SUBSEQUENT TO THE REMOVAL OF SILT.
  - SPACING AND FREQUENCY OF CHECK DAMS WILL BE DEPENDANT UPON LONGITUDINAL GRADIENT OF SWALE.
  - LOCATION OF FILTRATION CHECK DAMS (IF REQUIRED) TO BE AGREED ON SITE WITH ENGINEER. SETTLEMENT PONDS TO BE CONSTRUCTED IN A MANNER WHERE THEY MAY BE EASILY INFILLED AT A LATER DATE (POST COMPLETION OF THE TURBINE BASE AND HARDSTAND CONSTRUCTION). ONLY SUITABLE MATERIALS EXCAVATED FROM THE POND TO BE USED TO FORM PART OF THE EMBANKMENT AROUND THE POND.
  - OIL/FUEL SHOULD BE STORED WITHIN BUNDED CONTAINMENT STRUCTURES.
  - SILT BAGS WILL BE USED ON SITE AT FIELD DRAIN DISCHARGE LOCATIONS, AS NECESSARY.

MITIGATION / DRAINAGE COINTROLS AVAILABLE FOR USE ACROSS THE SITE	
MANAGEMENT TYPE	DESCRIPTION OF SUDS DRAINAGE CONTROL METHODS
AVOIDANCE CONTROLS	<ol style="list-style-type: none"> <li>APPLICATION OF 50M BUFFER ZONES TO NATURAL WATERCOURSES WHERE POSSIBLE</li> <li>APPLICATION OF 10M BUFFER ZONES TO MAIN DRAINS WHERE POSSIBLE</li> <li>USING SMALL WORKING AREAS</li> <li>WORKING IN APPROPRIATE WEATHER, AND SUSPENDING CERTAIN WORK ACTIVITIES IN ADVANCE OF FORECASTED WET WEATHER</li> </ol>
SOURCE CONTROLS	<ol style="list-style-type: none"> <li>USE OF UPSTREAM INTERCEPTOR DRAINS AND DOWNSTREAM COLLECTOR DRAINS / OVERSIZED SWALES, VEE-DRAINS, DIVERSION DRAINS, FLUMES AND CULVERT PIPES</li> <li>EROSION AND VELOCITY CONTROL MEASURES SUCH AS:                     <ol style="list-style-type: none"> <li>SAND BAGS</li> <li>OYSTER BAGS FILLED WITH GRAVEL</li> <li>FILTER FABRICS</li> <li>AND OTHER SIMILAR/EQUIVALENT OR APPROPRIATE SYSTEMS</li> </ol> </li> <li>USING SMALL WORKING AREAS</li> <li>SURROUNDING STOCKPILES WITH SILT FENCING</li> <li>WEATHERING OFF / SEALING PEAT STOCKPILES</li> </ol>
IN-LINE CONTROLS	<ol style="list-style-type: none"> <li>INTERCEPTOR DRAINS, VEE-DRAINS, OVERSIZED SWALES/COLLECTOR DRAINS</li> <li>EROSION AND VELOCITY CONTROL MEASURES SUCH AS:                     <ol style="list-style-type: none"> <li>SAND BAGS</li> <li>OYSTER BAGS FILLED WITH GRAVEL</li> <li>FILTER FABRICS</li> <li>STRAW BALES</li> <li>FLOW LIMITERS</li> <li>WEIRS OR BAFFLES</li> <li>AND/OR OTHER SIMILAR/EQUIVALENT OR APPROPRIATE SYSTEMS.</li> </ol> </li> <li>SILT FENCES, FILTER FABRICS</li> <li>IN STREAM SEDIMENTS</li> <li>COLLECTION SUMPS, TEMPORARY SUMPS, PUMPING SYSTEMS</li> <li>ATTENUATION LAGOONS</li> <li>SEDIMENT TRAPS, STILLING / SETTLEMENT PONDS</li> </ol>
WATER TREATMENT CONTROLS	<ol style="list-style-type: none"> <li>TEMPORARY SUMPS</li> <li>ATTENUATION PONDS</li> <li>TEMPORARY STORAGE LAGOONS</li> <li>SEDIMENT TRAPS, STILLING / SETTLEMENT PONDS</li> <li>PROPRIETARY SETTLEMENT SYSTEMS SUCH AS SILTBUSTER, AND/OR OTHER SIMILAR/EQUIVALENT OR APPROPRIATE SYSTEMS.</li> <li>SILT DEWATERING BAGS</li> </ol>
OUTFALL CONTROLS	<ol style="list-style-type: none"> <li>LEVELSPREADERS</li> <li>BUFFERED OUTFALLS</li> <li>VEGETATION FILTERS</li> <li>SILT DEWATERING BAGS</li> <li>FLOW LIMITERS AND WEIRS</li> </ol>



**DRAWING LEGEND:**

- WATERCOURSES
- WATERCOURSE 50M BUFFER
- WATERCOURSE FLOW DIRECTION
- DRAINAGE FLOW/RUNOFF DIRECTION/GROUND SLOPE
- EXISTING DRAINS
- REDIRECTED DRAINS
- HAPPED FORESTRY DRAINS
- HAPPED DRAINAGE PATHWAYS
- POTENTIAL DRAINAGE FLOWPATHS ARE MODELLED BASED ON LEAK DATA AND DO NOT INDICATE THE PRESENCE OF A DRAIN OR WATERCOURSE DOMINATED BY RECHARGE TO GROUND.
- UPSTREAM INTERCEPTOR DRAIN
- SWALES/DOWNSLOPE/COLLECTOR DRAIN (SDCD) OR OVER THE EDGE (OTE)
- DIRECTION OF FLOW
- SILT FENCES (SF)
- DRAINAGE SILT FENCES (DSF)
- SETTLEMENT POND - LEVEL SPREADER
- SETTLEMENT POND - VEGETATION FILTER - LEVEL SPREADER
- CHECK DAM 'TYPE A'
- CHECK DAM 'TYPE B'
- FORESTRY DRAIN CHECK DAM
- PROPOSED WC CROSSINGS
- EXISTING WC CROSSINGS
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP SETTLEMENT POND
- SN-NATURAL VEGETATION SWALE / FILTER BED /SECONDARY SP
- PUMPING SUMP
- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE
- MAJOR CONTOUR (10 M INTERVAL)
- EXISTING GROUND SURFACE
- MINOR CONTOUR (1 M INTERVAL)
- TURBINE AND SWEEP AREA
- TURBINE FOUNDATION
- TURBINE HARDSTAND
- UPGRADES TO EXISTING ROADS
- PROPOSED NEW ROAD
- PROPOSED ACCESS TRACK ALONG UNDERGROUND CABLING
- PUBLIC ROAD
- BORROW PIT
- PROPOSED CONSTRUCTION COMPOUND
- PROPOSED EXTENSION TO EXISTING SLIEVECALLAN 110KV SUBSTATION
- EXISTING SLIEVECALLAN 110KV SUBSTATION
- HET MAST
- PEAT AND SPOIL MANAGEMENT AREA
- PROPOSED GRID CONNECTION SITE
- 33KV UNDERGROUND CABLE ROUTE
- FILL AREA
- CUT AREA
- PROPOSED MARSH FRITILLARY ENHANCEMENT AREA
- PROPOSED CLEARFELLING ENHANCEMENT AREA



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Revisions

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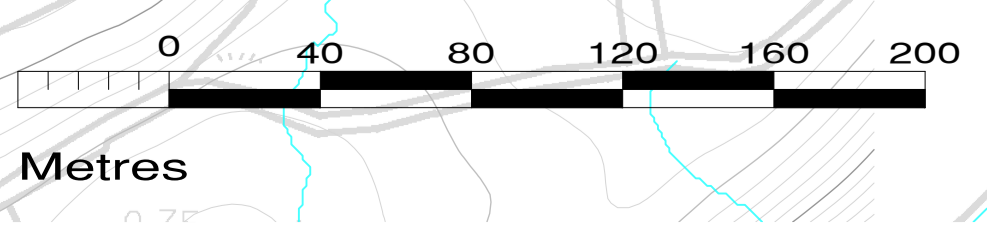
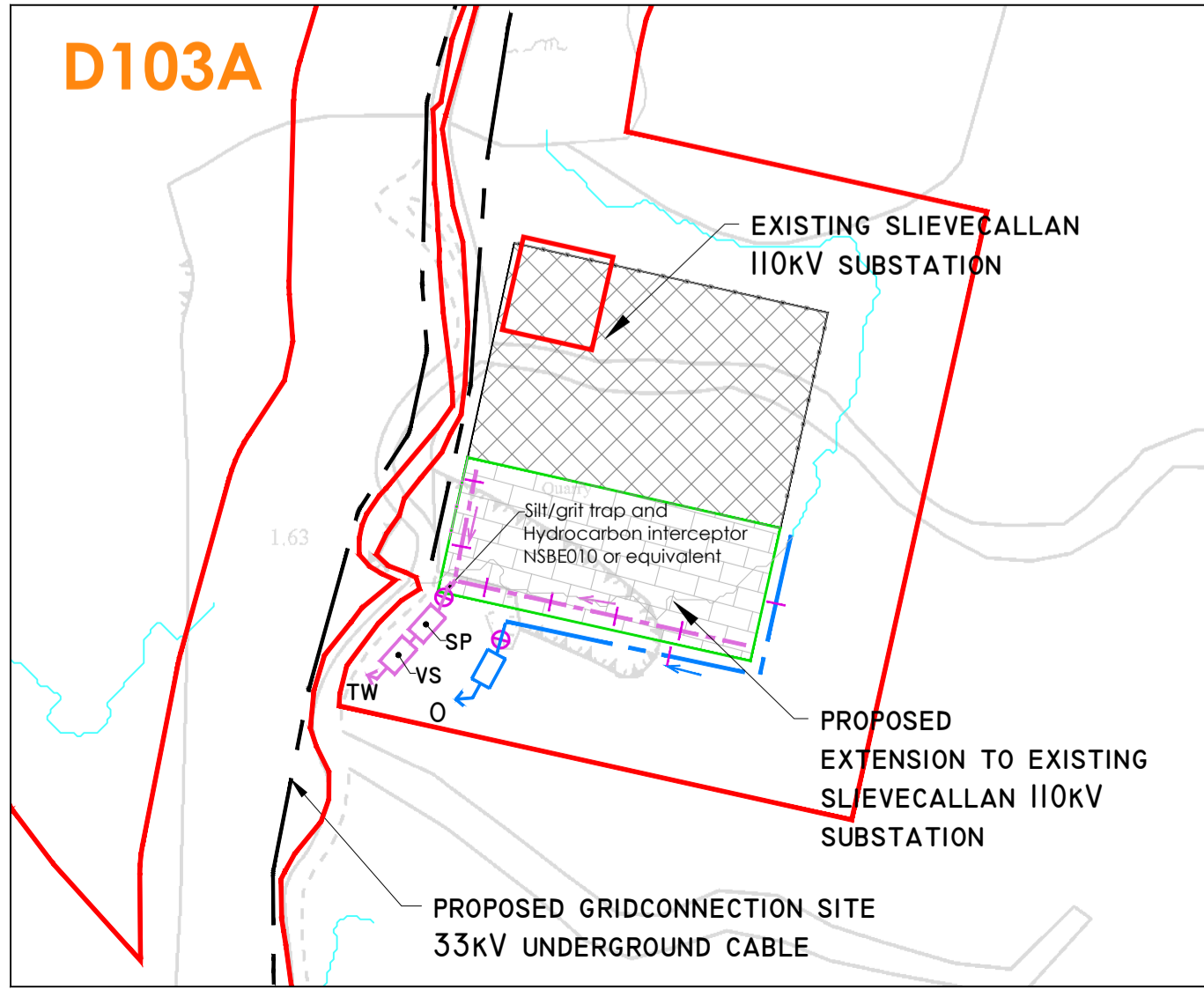
Job: **SLIEVEACURRY RENEWABLE ENERGY DEVELOPMENT**

Title: **PROPOSED DRAINAGE LAYOUT**

Figure No: **D103**

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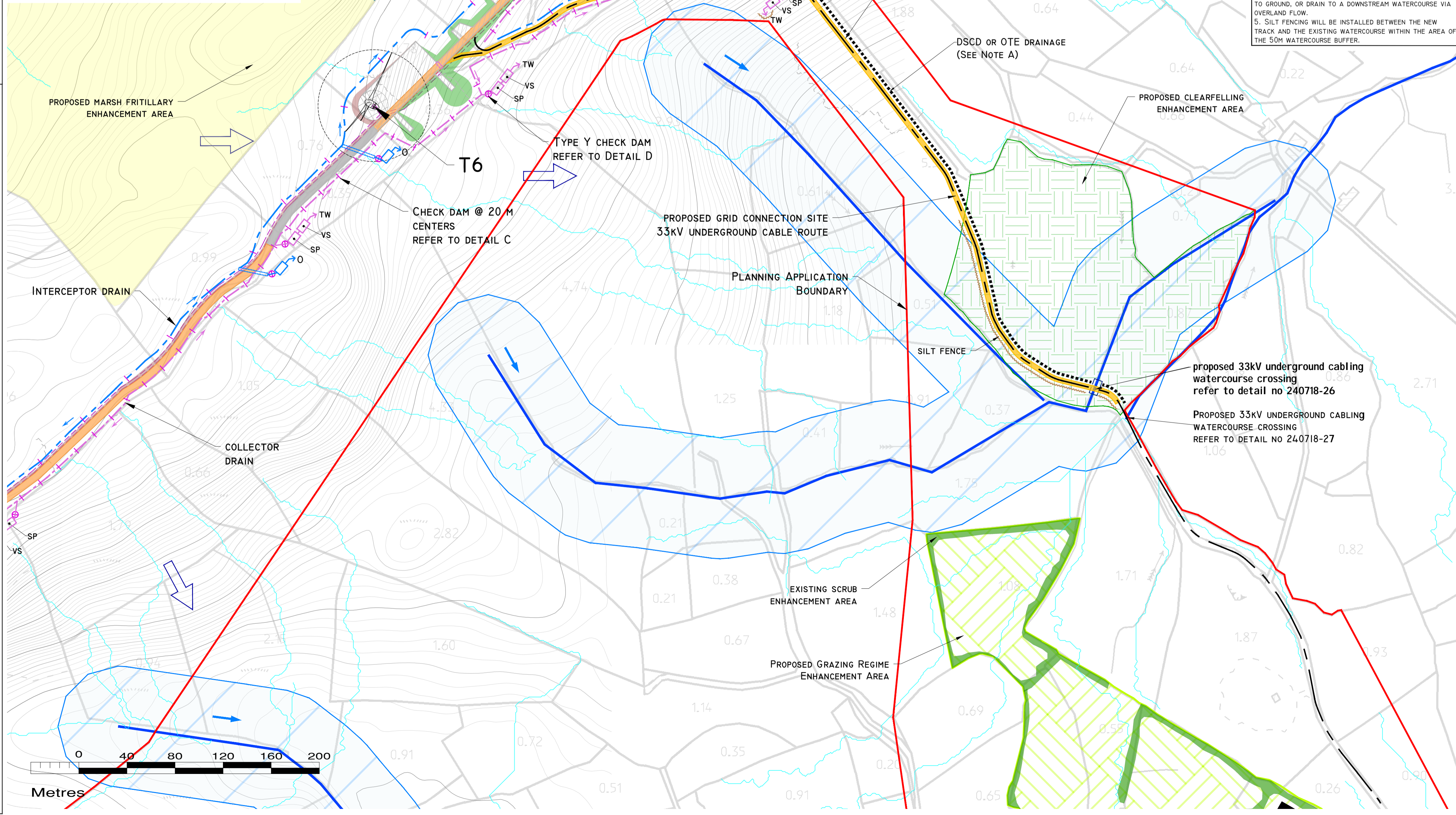


**POLLUTION PREVENTION NOTES:**

- SITE MANAGEMENT PROPOSALS ARE INTENDED TO ENSURE PROTECTION AGAINST SURFACE WATER AND GROUNDWATER POLLUTION, SURFACE WATER SILTATION, AND STREAM BANK AND LAND EROSION.
  - SUITABLE DRAINAGE CONTROL MEASURES SHOULD BE IN PLACE AT ALL TIMES TO PREVENT CONVEYANCE OF SIGNIFICANT VOLUMES OF SILT TO OFF SITE RECEIVING WATERCOURSES.
  - SILTY WATER CAN ARISE FROM DEWATERING EXCAVATIONS, EROSION OF EXPOSED/DISTURBED GROUND, EROSION OF TEMPORARY STOCKPILES, PLANT AND WHEEL WASH WATER, RUMBLE FROM SITE ROADS/TRACKS, AND DISTURBANCE OF EXISTING FIELD DRAINS AND DITCHES.
- DISCHARGES**
- WATER CONTAINING SILT WILL NOT BE PUMPED DIRECTLY TO ANY NATURAL WATERCOURSE. ALL DISCHARGES TO BE MADE OVER OPEN GROUND OR INTO EXISTING FIELD DRAIN WITH SILT TRAP A MINIMUM 20M FROM NEAREST WATERCOURSE UNLESS OTHERWISE STATED.
  - NO EXCAVATED MATERIAL IS TO BE STORED WITHIN ANY SURFACE WATER BUFFER ZONE.
  - PUMPED WATER WILL BE DIRECTED INTO TRACK SIDE DITCHES AND TREATED IN SETTLEMENT PONDS AND VEGETATION SWALES PRIOR TO OVERLAND DISCHARGE.
  - PUMPING OF CLEAN WATER FROM EXCAVATIONS / OR OVER-PUMPING INTO FIELD DRAINS/DITCHES/STREAMS WILL BE COMPLETED IN A MANNER THAT DOES NOT CAUSE SCOUR OR EROSION AT THE POINT OF RELEASE/DISCHARGE. THIS WILL BE DONE BY REDUCING THE FLOW VELOCITIES OR BY USE OF SPLASH PLATES, AND OTHER SIMILAR DISCHARGE CONTROLS.
  - VEGETATION WILL NOT BE STRIPPED FROM EXISTING FIELD DRAINS/DITCHES UNLESS ABSOLUTELY NECESSARY.
- EXCAVATIONS**
- WHERE DEEP EXCAVATIONS ARE PROPOSED CUT-OFF DRAINS WILL BE USE TO REDUCE THE AMOUNT OF SURFACE WATER ENTERING THE EXCAVATION. THIS WILL BE THE CASE AROUND TURBINE BASE EXCAVATIONS.
- EXPOSED GROUND & STOCKPILES**
- THE AMOUNT OF EXPOSED GROUND AND TEMPORARY STOCKPILES OPEN AT ANY ONE TIME WILL BE MINIMISED, AS FAR AS PRACTICABLE.
- SITE TRACKS**
- USE OF TRACK SIDE SWALES WITH CHECK DAMS, AND/OR FILTRATION CHECK DAMS WILL REDUCE SILT IN RUNOFF WATER AS REQUIRED.
  - CHECK DAMS TO BE INSPECTED AND CLEANED REGULARLY.
- REFUELLING**
- REFUELLING WILL BE COMPLETED IN LINE WITH CEMP REQUIREMENTS AND AWAY FROM FIELD DRAINS / DITCHES AND WATERCOURSES / WATERBODIES.
  - SPILL KITS AND DRIP TRAYS WILL BE AVAILABLE ON SITE FOR USE AS REQUIRED.
- CONCRETE**
- CARE WILL BE TAKEN WHEN COMPLETING CONCRETE WORKS ON SITE TO ENSURE NO DISCHARGES OF CONCRETE OR WASH WATER OCCURS.
  - CONCRETE WASH WATER, AND WASTE CONCRETE WILL BE MANAGED APPROPRIATELY ON SITE.
- IF WATER POLLUTION IS IDENTIFIED THE FOLLOWING STEPS WOULD BE ADHERED TO:**
- STOP** - WORK IN THE IMMEDIATE AREA SHOULD BE STOPPED AND THE SOURCE OF THE POLLUTION IDENTIFIED.
- CONTAIN** - THE SOURCE OF THE POLLUTION SHOULD BE BUNDED USING A SUITABLE METHOD. NATURAL WATERCOURSES SHOULD BE TEMPORARILY DIVERTED AROUND THE SOURCE OF POLLUTION.
- NOTIFY** - THE RELEVANT AUTHORITIES (SITE MANAGER / INLAND FISHERIES IRELAND / NPWS / LOCAL AUTHORITY ETC.) SHOULD BE NOTIFIED IMMEDIATELY TO ENSURE THAT MEASURES CAN BE IMPLEMENTED DOWNSTREAM TO PROTECT FISHERIES AND OTHER SENSITIVE AREAS, IF REQUIRED.
- DRAINAGE NOTES:**
- ROADWAY SURFACING DESIGN AND CONSTRUCTION TO ENGINEER'S SPECIFICATION.
  - SPARE STRAW BALES/SILT FENCING/ OR SIMILAR, TO BE STORED ON SITE. THE LEVEL OF SILT IN RUNOFF DURING CONSTRUCTION IS TO BE MONITORED VISUALLY AND EXCESSIVE SILT LEVELS IN ANY AREA TO BE TEMPORARILY MANAGED BY PLACING SILT FENCES, STRAW BALES / OR SIMILAR OR ADDITIONAL CHECK DAMS AT THE PROBLEM AREAS.
  - SUDS SYSTEM TO BE CONSTRUCTED PRIOR TO, OR AT THE SAME TIME AS THE ACCESS TRACKS. INTERIM MEASURES SUCH AS THE PLACEMENT OF STRAW BALES/SILT FENCING/OR SIMILAR APPROVED METHOD OR ADDITIONAL CHECK DAMS AND SILT FENCES TO BE EMPLOYED IN ALL INSTANCES WHERE WORK CARRIED OUT TO CONSTRUCT THE ACCESS TRACKS IS LIKELY TO CAUSE ADVERSE ENVIRONMENTAL EFFECTS THROUGH INCREASED SILT LOADINGS BEING GENERATED DURING THE CONSTRUCTION PHASE.
  - SUITABLE PREVENTION MEASURES SHOULD BE IN PLACE AT ALL TIMES TO PREVENT THE CONVEYANCE OF SIGNIFICANT VOLUMES OF SILT TO RECEIVING WATERCOURSES. SEE NOTES ON POLLUTION PREVENTION.
  - INTERCEPTOR SWALES / DITCHES TO BE USED TO COLLECT UPSTREAM SURFACE WATER FLOWS. REGULAR CROSS DRAINS / DISCHARGE TO FIELD DITCHES WILL BE REQUIRED TO TRANSFER / DISCHARGE SURFACE WATER IN INTERCEPTOR DRAINS TO SUITABLE FIELD DRAIN OUTFALL POINTS.
  - DRAINAGE SWALES / DITCHES TO BE EXCAVATED ADJACENT TO THE ACCESS TRACKS. REGULAR CROSS DRAINS TO BE LOCATED ALONG ACCESS TRACKS TO PREVENT EXCESSIVE VOLUMES OF WATER COLLECTING IN THE SWALES / DITCHES. LOCATIONS OF CROSS DRAINS TO BE AGREED WITH THE ENGINEER ON SITE. SURFACE WATER WILL NOT BE ALLOWED TO DISCHARGE DIRECTLY INTO EXISTING WATERCOURSES.
  - WHERE POSSIBLE, A BUFFER ZONE OF >20M TO ANY EXISTING WATERCOURSE WILL BE REQUIRED WHERE OVER LAND DISCHARGES ARE PROPOSED FROM ACCESS TRACK SWALES / DITCHES.
  - DITCHES OF ALL PROPOSED SWALES / DITCHES TO HAVE A SLOPE OF BETWEEN 1 : 1.5 TO 1 : 2 DEPENDING UPON DEPTH OF SWALE/DITCH AND WILL BE LEFT AS CUT TO RE-VEGETATE WITH LOCAL SPECIES.
  - TRACK SIDE SWALES / DITCHES TO BE SHALLOW WITH MODERATE GRADIENTS TO PREVENT SCOURING. IN STEEP AREAS CHECK DAMS SHOULD BE INSTALLED TO REDUCE FLOW VELOCITIES AND PROVIDE SOURCE CONTROL OF SILT CONTAINMENT. WHERE NECESSARY THESE HAVE BEEN DESIGNATED IN CONJUNCTION WITH SETTLEMENT PONDS AND SILT TRAPS, PRIOR TO DISCHARGE.
  - SETTLEMENT PONDS TO BE CONSTRUCTED FOR SILT REMOVAL AT TURBINE BASES AND HARD STAND AREAS. POND SIZES DEPENDS ON CATCHMENT AREA SERVED. SAMPLE POND SIZES SHOWN ON DRAWING D501.
  - STRAW BALES / OR SIMILAR AND SILT FENCES TO BE USED ALSO AROUND SPOIL HEAPS TO MITIGATE SILT RUNOFF. SILT FENCES MAY BE REMOVED WHEN SUITABLE VEGETATION COVER IS ESTABLISHED.
  - SILT FENCES TO BE PROVIDED ALONG EDGE OF EXISTING WATERCOURSE WHERE WORKS COMES WITHIN <20M OF EDGE OF ANY DITCH / EPHEMERAL CHANNELS.
  - SLOPES OF THE SWALES / DITCHES TO BE VEGETATED OR PROTECTED FROM EROSION UNTIL VEGETATION HAS BEEN ESTABLISHED. STRIPPED VEGETATIVE LAYER (PEAT 'SOD' OR 'SCRAW') FROM EXCAVATIONS TO BE STORED LOCALLY AND USED TO LINE SLOPES AND BASE OF SWALES / DITCHES OR LONGITUDINAL MOUNDS OF VEGETATION SWALES AT FIELD DRAIN DISCHARGE POINTS.
  - AREAS STRIPPED OF VEGETATION SHOULD BE KEPT TO A MINIMUM.
  - CLEAN STONE FLOW CONTROL CHECK DAMS TO BE MADE OF LOCALLY WON / GEOLOGICALLY SIMILAR WELL GRADED STONE. AGGREGATE SIZE FOR STONE CHECK DAMS TO BE TYPICALLY 20- 40MM CLEAN STONE. ON SLOPING SECTIONS OF THE ACCESS TRACKS, 40MM CHECK DAMS TO BE PROTECTED FROM WASHING AWAY THROUGH THE PLACEMENT OF 100M STONE ON THE DOWNHILL FACE OF THE CHECK DAM AND BY WRAPPING IN GEOTEXTILE.
  - BUILD UP OF SILT LEVELS AT CHECK DAMS TO BE REMOVED AND DISPOSED OF APPROPRIATELY. SILT LEVELS AT CHECK DAMS TO BE VISUALLY INSPECTED AS PART OF AN ONGOING DRAINAGE MAINTENANCE PROGRAMME DURING THE CONSTRUCTION PHASE. WHERE CHECK DAMS BECOME CLOGGED WITH SILT OR VEGETATION, STONE CHECK DAM TO BE REMOVED AND REPLACED SUBSEQUENT TO THE REMOVAL OF SILT.
  - SPACING AND FREQUENCY OF CHECK DAMS WILL BE DEPENDENT UPON LONGITUDINAL GRADIENT OF SWALE.
  - LOCATION OF FILTRATION CHECK DAMS (IF REQUIRED) TO BE AGREED ON SITE WITH ENGINEER. SETTLEMENT PONDS TO BE CONSTRUCTED IN A MANNER WHERE THEY MAY BE EASILY INFILLED AT A LATER DATE (POST COMPLETION OF THE TURBINE BASE AND HARDSTAND CONSTRUCTION). ONLY SUITABLE MATERIALS EXCAVATED FROM THE POND TO BE USED TO FORM PART OF THE EMBANKMENT AROUND THE POND.
  - OIL/FUEL SHOULD BE STORED WITHIN BUNDED CONTAINMENT STRUCTURES.
  - SILT BAGS WILL BE USED ON SITE AT FIELD DRAIN DISCHARGE LOCATIONS, AS NECESSARY.

**MITIGATION / DRAINAGE CONTROLS AVAILABLE FOR USE ACROSS THE SITE**

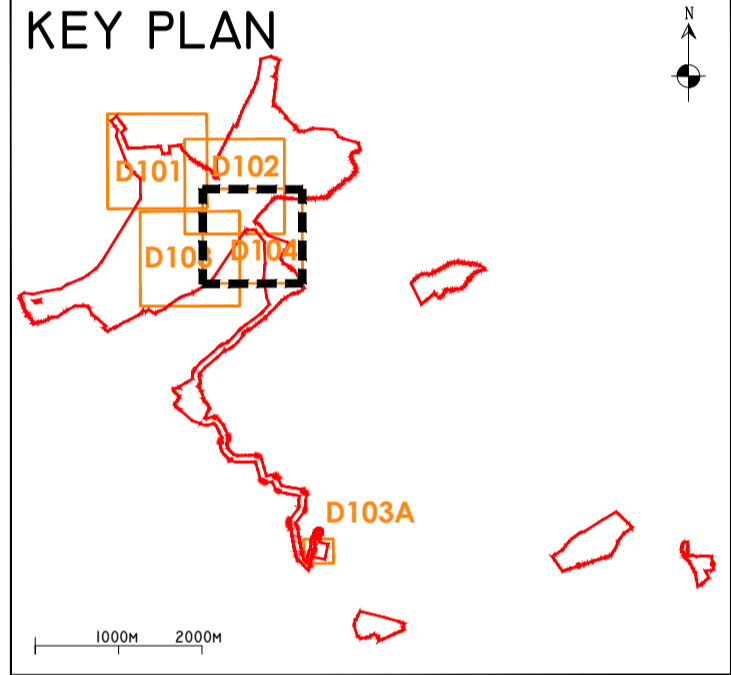
MANAGEMENT TYPE	DESCRIPTION OF SUDS DRAINAGE CONTROL METHODS
<b>AVOIDANCE CONTROLS</b>	1) APPLICATION OF 50M BUFFER ZONES TO NATURAL WATERCOURSES WHERE POSSIBLE 2) APPLICATION OF 10M BUFFER ZONES TO MAIN DRAINS WHERE POSSIBLE 3) USING SMALL WORKING AREAS 4) WORKING IN APPROPRIATE WEATHER, AND SUSPENDING CERTAIN WORK ACTIVITIES IN ADVANCE OF FORECASTED WET WEATHER
<b>SOURCE CONTROLS:</b>	1) USE OF UPSTREAM INTERCEPTOR DRAINS AND DOWNSTREAM COLLECTOR DRAINS / OVERSIZED SWALES, VEE-DRAINS, DIVERSION DRAINS, FLUMES AND CULVERT PIPES 2) EROSION AND VELOCITY CONTROL MEASURES SUCH AS: A) SAND BAGS B) OYSTER BAGS FILLED WITH GRAVEL C) FILTER FABRICS D) AND OTHER SIMILAR/EQUIVALENT OR APPROPRIATE SYSTEMS 3) USING SMALL WORKING AREAS 4) SURROUNDING STOCKPILES WITH SILT FENCING 5) WEATHERING OFF / SEALING PEAT STOCKPILES
<b>IN-LINE CONTROLS:</b>	1) INTERCEPTOR DRAINS, VEE-DRAINS, OVERSIZED SWALES/COLLECTOR DRAINS 2) EROSION AND VELOCITY CONTROL MEASURES SUCH AS: A) SAND BAGS B) OYSTER BAGS FILLED WITH GRAVEL C) FILTER FABRICS D) STRAW BALES E) FLOW LIMITERS F) WEIRS OR BAFFLES G) AND/OR OTHER SIMILAR/EQUIVALENT OR APPROPRIATE SYSTEMS 3) SILT FENCES, FILTER FABRICS 4) IN STREAM SEDIMENTS 5) COLLECTION SUMPS, TEMPORARY SUMPS, PUMPING SYSTEMS 6) ATTENUATION LAGOONS 7) SEDIMENT TRAPS, STILLING / SETTLEMENT PONDS
<b>WATER TREATMENT CONTROLS:</b>	1) TEMPORARY SUMPS 2) ATTENUATION PONDS 3) TEMPORARY STORAGE LAGOONS 4) SEDIMENT TRAPS, STILLING / SETTLEMENT PONDS 5) PROPRIETARY SETTLEMENT SYSTEMS SUCH AS SILTBUSTER, AND/OR OTHER SIMILAR/EQUIVALENT OR APPROPRIATE SYSTEMS. 6) SILT DEWATERING BAGS
<b>OUTFALL CONTROLS:</b>	1) LEVELSPREADERS 2) BUFFERED OUTFALLS 3) VEGETATION FILTERS 4) SILT DEWATERING BAGS 5) FLOW LIMITERS AND WEIRS



**NOTE A**  
 DSCD OR OTE DRAINAGE:  
 1. A PROPOSED ACCESS TRACK ALONG THE UNDERGROUND CABLING ALIGNMENT WILL BE INSTALLED.  
 2. THIS PROPOSED SECTION OF TRACK WILL BE PERMANENT.  
 3. DEPENDING ON PREVAILING SITE CONDITIONS, AND IN ORDER TO MINIMISE DRAINAGE IMPACTS, EITHER A DOWNSTREAM COLLECTOR DRAIN WILL BE INSTALLED, OR OVER THE EDGE DRAINAGE WILL BE IMPLEMENTED.  
 4. OTE DRAINAGE IS WHERE RUNOFF FROM THE TRACK WILL DRAIN DIFFUSELY ACROSS THE ADJACENT GROUND, AND SOAK TO GROUND, OR DRAIN TO A DOWNSTREAM WATERCOURSE VIA OVERLAND FLOW.  
 5. SILT FENCING WILL BE INSTALLED BETWEEN THE NEW TRACK AND THE EXISTING WATERCOURSE WITHIN THE AREA OF THE 50M WATERCOURSE BUFFER.

**DRAWING LEGEND:**

- WATERCOURSES
- WATERCOURSE 50M BUFFER
- WATERCOURSE FLOW DIRECTION
- DRAINAGE FLOW/RUNOFF DIRECTION/GROUND SLOPE
- EXISTING DRAIN
- REDIRECTED DRAINS
- MAPPED FORESTRY DRAINS
- MAPPED DRAINAGE PATHWAYS >50M LENGTH
- POTENTIAL DRAINAGE FLOWPATHS ARE MODELLED BASED ON LIDAR DATA AND DO NOT NECESSARILY INDICATE THE PRESENCE OF A DRAIN OR WATERCOURSE DOMINATED BY REUSE TO GROUND.
- UPSTREAM INTERCEPTOR DRAIN
- SWALE/DOWNSTREAM COLLECTOR DRAIN (DSCD) DESIGNED OVER THE TIME (EYE)
- DIRECTION OF FLOW
- SILT FENCES (SF)
- DOUBLE SILT FENCES (DSF)
- SETTLEMENT POND - LEVEL SPREADER
- SETTLEMENT POND - VEGETATION FILTER - LEVEL SPREADER
- CHECK DAM 'TYPE A'
- CHECK DAM 'TYPE B'
- FORESTRY DRAIN CHECK DAM
- PROPOSED WC CROSSINGS
- EXISTING WC CROSSINGS
- INTERCEPTOR DITCH CULVERT
- COLLECTOR DITCH CULVERT
- OVERLAND FLOW DISCHARGE
- TW TREATED WATER DISCHARGE
- SP SETTLEMENT POND
- SEM-NATURAL VEGETATION SWALE / FILTER BED / SECONDARY SP
- PUMPING SUMP
- PLANNING APPLICATION BOUNDARY
- EXISTING GROUND SURFACE MAJOR CONTOUR (10 M INTERVAL)
- EXISTING GROUND SURFACE HOUR CONTOUR (1 M INTERVAL)
- TURBINE AND SWEET AREA
- TURBINE FOUNDATION
- TURBINE HARDSTAND
- UPGRADES TO EXISTING ROADS
- PROPOSED NEW ROAD
- PROPOSED ACCESS TRACK ALONG UNDERGROUND CABLING
- PUBLIC ROAD
- BORROW PIT
- TEMPORARY CONSTRUCTION COMPOUND
- PROPOSED EXTENSION TO EXISTING SILT/CALLAN RIVER SUBSTATION
- EXISTING SILT/CALLAN RIVER SUBSTATION
- NET WAST
- PEAT AND SOIL MANAGEMENT AREA
- PROPOSED GRID CONNECTION SITE
- 33kV UNDERGROUND CABLE ROUTE
- FILL AREA
- CUT AREA
- PROPOSED HARSH FRITILLARY ENHANCEMENT AREA
- PROPOSED CLEARFELLING ENHANCEMENT AREA



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Revisions

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Client: **ENERCO ENERGY LTD**

Job: **SLIEVEACURRY RENEWABLE ENERGY DEVELOPMENT**

Title: **PROPOSED DRAINAGE LAYOUT**

Figure No: **D104**

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